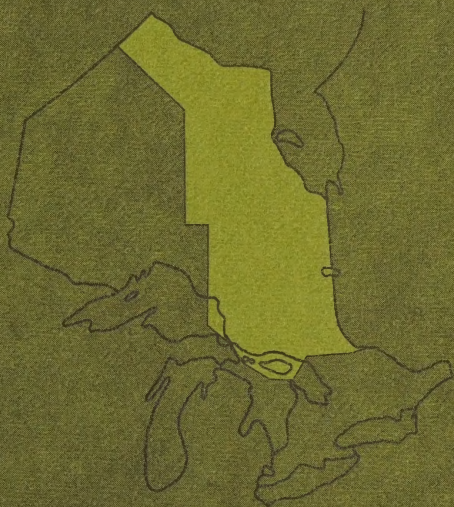


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BACKGROUND INFORMATION

and Approach to Policy



NORTHEASTERN ONTARIO

STRATEGIC LAND USE PLANNING PROCESS



Ontario

Ministry of
Natural
Resources

BACKGROUND INFORMATION
AND
APPROACH TO POLICY

NORTHEASTERN ONTARIO
STRATEGIC LAND USE PLANNING PROCESS



Ministry of
Natural
Resources

Hon. Frank S. Miller
Minister
Dr. J.K. Reynolds
Deputy Minister

MARCH, 1978



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A WORD OF EXPLANATION


The Strategic Land Use Planning process is designed to provide a framework for co-ordinating the land using programs of the Ministry of Natural Resources. This document alone is not a plan. However, it does represent the first stage in the Ministry's Strategic Planning process within Northeastern Ontario.

The policies in this report have been formulated within the Ministry over the past three years and provide an initial basis for public discussion. No attempt has yet been made to resolve apparent policy conflicts.

The background information and policies are presented to be scrutinized and commented upon by the public, government ministries and other interested groups. After this review and discussion, these policies, or modifications of them, will become the basis of the Ministry of Natural Resources Strategic Land Use Plan for Northeastern Ontario.

After the integrated objectives have been agreed upon, the next stage of the planning process will involve the preparation and evaluation of alternative land use plans. This stage will also include public participation, and it may well require further revision of the policies.

However, it should be stressed at this time that the needs and desires of all the people perhaps cannot be fully met. Certain trade-offs and compromises will likely be required.



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PREFACE

The general goal of the Ministry of Natural Resources is:

To provide opportunities for outdoor recreation and resource development for the continuous social and economic benefit of the people of Ontario and to administer, protect and conserve public lands and waters.

The Ministry of Natural Resources is somewhat unique among ministries because of its broad connection with land throughout the whole of Ontario. The Ministry is the custodian of Crown land in Ontario, and many of its objectives are achieved there. However, other objectives require the use of private land. To meet its objectives, the Ministry of Natural Resources has been involved in land use planning for more than 25 years. Until recently, most of the plans prepared by the Ministry of Natural Resources were either single purpose or short term. Today, with increasing demands for land, the need to co-ordinate the planning approach is widely recognized. This has led to the concept of a Strategic Land Use Plan, a document which will state, in broad and comprehensive terms, how the Ministry of Natural Resources objectives can be achieved in Ontario.

The Strategic Land Use Plan will co-ordinate the land using programs of the Ministry of Natural Resources. The plan is being developed within the framework of the Regional Planning Program of the Ontario Government, and will serve as the Ministry's major input to that program. In addition, the Strategic Land Use Plan will guide the Ministry's local area plans and will assist in the evaluation of plans of outside agencies.

The Strategic Land Use Plan will be prepared in two levels. Level one

will be a policy document for the Province of Ontario as a whole, and Level two will consist of the plans for each of the three planning regions - Northwestern, Northeastern and Southern Ontario. Together, these four plans will comprise the Strategic Land Use Plan for Ontario.

This report is Phase I, Background Information and Approach to Policy, for the Northeastern Ontario Planning Region. It represents a summary of the information which has been collected and analyzed over the past three years. The purpose of this report is to solicit the comments of the public and other government ministries concerning not only the background information, but more particularly, the candidate policies discussed in Chapter VIII.

This report and the comments which it elicits will provide the basis for subsequent discussions to refine the policy and finally to prepare the land use plan for Northeastern Ontario.

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CHAPTER I

THE REGION IN PERSPECTIVE

The Northeastern Ontario Planning Region encompasses an extensive area of land and water extending from the north shore of Lake Huron to the southern coast of Hudson-James Bay. This area includes 45% of the total land and water of the Province of Ontario and includes all of Ontario's salt water coastline.

The Planning Region is approximately 443 km (275 miles) from east to west and 1,207 km (750 miles) from north to south. The total area is 481,737 km² (186,000 sq. miles). Of this total, approximately 27,350 km² (10,560 sq. miles) are comprised of inland lakes and 24,216 km² (9,350 sq. miles) are Great Lakes waters.

This Planning Region has almost the same boundaries as the Northeastern Planning Region of the Ministry of Treasury, Economics and Intergovernmental Affairs. The Planning Region involves three Administrative Regions of the Ministry of Natural Resources; almost all of the Northeastern and Northern Regions and a small part of the North Central Region (Map 1). This area contains 18 Administrative Districts of the Ministry of Natural Resources (Map 2).

Within the total area there are great variations in climate, soils, vegetation, relief and geology. These variations have also resulted in variations in land use and settlement patterns.

Within the 481,737 km² (186,000 sq. miles) of the Northeastern Planning

The Region in Perspective

Region, the Canada Census reported a 1971 population of 559,000 or seven percent of the population of the province. Approximately 53 percent of the Region's population is contained within the four major urban centres (Sudbury, Sault Ste. Marie, Timmins and North Bay). Most of the northern third of the Planning Region is uninhabited.

By the year 2001, population projections for the Planning Region indicate a resident population between 775,000 and 860,000 people. The population reached by the year 2001 will be largely dependent upon job opportunities provided by the Region's natural resources. The use of natural resources, especially mining and forestry, has been the predominant influence on the growth and development of the Planning Region and will continue to play an important role in the future.

Serious pressures are now developing which threaten the attractiveness and productivity of the area and the inherent capability of the land resource to meet the needs of a growing society. Developing stresses indicate a need for rational planning.

MINISTRY OF NATURAL RESOURCES
ADMINISTRATIVE REGIONS
AND
PLANNING REGIONS



CHAPTER II

NATURAL SETTING

The development of Northeastern Ontario has been greatly affected by the variety of the Region's natural characteristics and resources. The influence of these will play an important role in the future and must be recognized in any plan prepared for the area.

A description of the natural characteristics and resources follows:

1. CLIMATE

The climate of Northeastern Ontario is one of the most important factors which has influenced the development of the area. As a liability, the climate has resulted in such things as higher heating costs, transportation disruptions, restriction of agricultural crop options, and limitations to timber production. As an asset, climate has permitted accessibility to areas through varying forms of transportation modes and has meant a generally longer winter season which is beneficial for many recreational and resource extraction activities.

The climate of Northeastern Ontario has been classified as Modified Continental. The modification results from the presence of the Great Lakes on the south, and to much lesser extent, Hudson Bay on the north. Maximum daily July temperatures range from 25°C (77°F) in the southern portion of the Planning Region to 20.6°C (69°F) in the northern quarter of the region. Minimum daily January temperatures range from -16°C (2°F) in the south to -28.9°C (-20°F) in the Patricia portion of the Planning Region (Table 1 and Map 3).

Natural Setting

TABLE 1

REGIONAL CLIMATES OF NORTHEASTERN ONTARIO

CLIMATIC REGION	SUDBURY NORTH BAY SAULT STE. MARIE	THIMSKAMING	SUPERIOR	NORTHERN CLAY BELT	HEIGHT OF LAND	ALBANY	PATRICIA
Altitude - metres/(feet) above sea level	183- 305 (600-1000)	183- 305 (600-1000)	183- 427 (600-1400)	213- 305 (700-1000)	305- 488 (1000-1600)	0- 457 (0-1500)	0- 457 (0-1500)
Mean Annual Temperature - $^{\circ}\text{C}$ $^{\circ}\text{F}$	4.4 $^{\circ}$ (40 $^{\circ}$)	2.2 $^{\circ}$ (36 $^{\circ}$)	1.7 $^{\circ}$ (35 $^{\circ}$)	1.1 $^{\circ}$ (34 $^{\circ}$)	1.1 $^{\circ}$ (34 $^{\circ}$)	-1.1 $^{\circ}$ (30 $^{\circ}$)	-3.9 $^{\circ}$ (25 $^{\circ}$)
Mean Annual Minimum Temperature - $^{\circ}\text{C}$ $^{\circ}\text{F}$	-34.4 $^{\circ}$ (-30 $^{\circ}$)	-37.2 $^{\circ}$ (-35 $^{\circ}$)	-37.2 $^{\circ}$ (-35 $^{\circ}$)	-40.0 $^{\circ}$ (-40 $^{\circ}$)	-42.8 $^{\circ}$ (-45 $^{\circ}$)	-41.1 $^{\circ}$ (-42 $^{\circ}$)	-42.8 $^{\circ}$ (-45 $^{\circ}$)
Mean Daily Maximum Temperature-January - $^{\circ}\text{C}$ $^{\circ}\text{F}$	- 5.6 $^{\circ}$ (22 $^{\circ}$)	- 7.8 $^{\circ}$ (18 $^{\circ}$)	- 7.8 $^{\circ}$ (18 $^{\circ}$)	-11.7 $^{\circ}$ (11 $^{\circ}$)	-10.0 $^{\circ}$ (14 $^{\circ}$)	-15.6 $^{\circ}$ (4 $^{\circ}$)	-17.8 $^{\circ}$ (0 $^{\circ}$)
July - $^{\circ}\text{C}$ $^{\circ}\text{F}$	25.0 $^{\circ}$ (77 $^{\circ}$)	25.0 $^{\circ}$ (77 $^{\circ}$)	22.3 $^{\circ}$ (72 $^{\circ}$)	23.9 $^{\circ}$ (75 $^{\circ}$)	24.4 $^{\circ}$ (76 $^{\circ}$)	22.8 $^{\circ}$ (73 $^{\circ}$)	20.6 $^{\circ}$ (69 $^{\circ}$)
Mean Daily Minimum Temperature-January - $^{\circ}\text{C}$ $^{\circ}\text{F}$	-16.7 $^{\circ}$ (2 $^{\circ}$)	-22.2 $^{\circ}$ (- 8 $^{\circ}$)	-20.0 $^{\circ}$ (- 4 $^{\circ}$)	-24.4 $^{\circ}$ (-12 $^{\circ}$)	-24.4 $^{\circ}$ (-12 $^{\circ}$)	-26.7 $^{\circ}$ (-16 $^{\circ}$)	-28.9 $^{\circ}$ (-20 $^{\circ}$)
July - $^{\circ}\text{C}$ $^{\circ}\text{F}$	12.2 $^{\circ}$ (54 $^{\circ}$)	11.7 $^{\circ}$ (53 $^{\circ}$)	10.0 $^{\circ}$ (50 $^{\circ}$)	10.6 $^{\circ}$ (51 $^{\circ}$)	10.0 $^{\circ}$ (50 $^{\circ}$)	10.6 $^{\circ}$ (51 $^{\circ}$)	8.3 $^{\circ}$ (47 $^{\circ}$)
Mean Date of Last Frost in Spring	May 31	June 10	June 5	June 8	June 15	June 12	June 18
Mean Date of First Frost in Fall	Sept 20	Sept 13	Sept 15	Sept 7	Sept 2	Sept 5	Aug 31
Mean Annual Frost Free Period (days)	112	96	103	92	80	86	75
Start of Growing Season	Apr 25	Apr 27	May 6	May 7	May 5	May 15	May 24
End of Growing Season	Oct 24	Oct 15	Oct 15	Oct 13	Oct 13	Oct 8	Oct 1
Mean Annual Length of Growing Season (days)	183	172	163	160	162	154	131
Mean Annual Precipitation - Centimetres/(inches)	83.8 (33)	81.3 (32)	86.4 (34)	78.8 (31)	76.2 (30)	66 (26)	61 (24)
Mean May to September Precipitation-Centimetres/(inches)	40.6 (16)	40.6 (16)	40.6 (16)	40.6 (16)	38.1 (15)	38.1 (15)	35.6 (14)
Mean Annual Snowfall - Centimetres/(inches)	215.9 (85)	215.9 (85)	279.4 (110)	279.4 (110)	241.3 (95)	241.3 (95)	203.2 (80)

Source: Chapman L.J. and Thomas, M.K., The Climate of Northern Ontario Department of Transport, Toronto 1968



The highest temperature ever recorded in the Planning Region occurred at Biscotasing with a temperature of 42.2°C (108°F). The lowest temperature ever recorded was -58.3°C (-73°F) at Iroquois Falls.

The growing season (the period when mean daily temperatures are above 5.6°C (42°F)) starts about April 25 in the Sault Ste. Marie - Sudbury - North Bay area, while further north the season starts progressively later (May 10 in Hearst). The end of the growing season occurs about October 12 at Kapuskasing and about October 31 on Manitoulin Island. The mean annual growing season ranges from 190 days in the Manitoulin area to less than 140 days in the northern quarter of the Region.

The occurrence of frost restricts the length of the agricultural season. The average frost-free period is nearly 90 days in the Cochrane-Kapuskasing area and increases to 120 days within portions of the Sault Ste. Marie - Sudbury - North Bay climatic Region (Table 1 and Map 3).

Freeze-up and break-up are primary functions of latitude in the Planning Region. The Manitoulin Island freeze-up occurs about December 12 with break-up approximately April 19. The freeze-up and break-up dates for Moosonee are November 9 and May 16 respectively.

The extreme northern portion of the Planning Region experiences both discontinuous and continuous permafrost. A rather large area of continuous permafrost exists along the entire Hudson Bay coastline from Cape Henrietta Maria to Manitoba. This southern limit of permanently frozen ground coincides roughly with a mean annual temperature of -7°C (20°F). Discontinuous permafrost may extend as far south as the -1°C (30°F) isotherm which roughly corresponds to the 51°N latitude in Northeastern Ontario.

Throughout Northeastern Ontario precipitation records indicate a summer maximum and winter minimum of precipitation. The coincidence of warmth and moisture in mid-summer is a favourable feature of the climate as it promotes the growth of trees and field crops. Mean annual total precipitation varies from 41 cm (16 inches) in the extreme northwest in the Hudson Bay Lowlands, to 81 cm (32 inches) on the north shore of Lake Huron. Snowfall ranges from a low of 152 cm (60 inches) along the Manitoba border to over 330 cm (130 inches) north of Sault Ste. Marie in the lee of Lake Superior. The north shore of Lake Huron averages an annual snowfall of less than 203 cm (80 inches). Helen Mine in the Wawa area records an average snowfall of 363 cm (143 inches) and usually has considerably more snowfall than any other station in the province.

2. BEDROCK GEOLOGY

The geology of the Planning Region has been responsible for the development of a significant mining industry. This industry has been one of the mainstays of Northeastern Ontario's economy.

Most of the settled portion of the Planning Region is underlain by Precambrian igneous, sedimentary and metamorphic rocks of the Canadian Shield. This portion of the Shield has been subdivided into three structural provinces, each characterized by distinctive assemblages of rock types, rock ages, degree of metamorphism, structural style and mineral deposits.

As illustrated by Map 4, the major portion of the southern part of the Planning Region is underlain by rocks of the Superior Province. These consist primarily of Early Precambrian volcanic and sedimentary rocks, which form linear units commonly termed greenstone belts. Separating

the greenstone belts are relatively large areas underlain by granitic intrusive and metamorphic rocks. The greenstone belts contain economically important deposits of zinc, copper, silver, gold, iron and asbestos (Map 5).

The Southern Province, which comprises a narrow band of land extending from Sault Ste. Marie on the west, through Sudbury to Lake Timiskaming on the east, is characterized by a thick assemblage of Middle Precambrian sedimentary rocks and mafic intrusive rocks. The nickel-copper-precious metals deposits of the Sudbury area and uranium, silver and silica deposits constitute the major economic mineral resources of the Southern Province.

The Grenville Province comprises the southeastern portion of the planning area and consists primarily of metamorphosed sedimentary rocks and granitic intrusive and metamorphic rocks. This province is characterized by a variety of igneous and metamorphic rocks suitable for use as building and ornamental stone, by deposits of uranium and niobium, and by industrial minerals such as kyanite, feldspar and garnet.

Small bodies of alkalic intrusive rocks and carbonatite, commonly containing uranium, niobium, iron and phosphate, are intrusive into rocks of all three structural provinces.

South of the Canadian Shield, and comprising the northern rim of the Michigan Basin, Manitoulin and adjacent islands in the North Channel of Lake Huron consist of Phanerozoic (Paleozoic) sedimentary rocks, predominantly limestones, dolomites and shales. Certain of these rocks are potential sources of stone for the chemical and metallurgical industries.

Natural Setting

The Hudson Bay Lowlands comprise much of the northern part of the planning area, and are underlain by Phanerozoic sedimentary rocks. These consist predominantly of Paleozoic limestones, dolomites and shales, which in the Moose River Basin are overlain by Mesozoic clay, sand and lignite. An area within the Lowlands, known as the Sutton Inlier, consists of Early and Middle Precambrian sedimentary and intrusive rocks. Gypsum, lignite, kaolin and silica sands occur in the Lowlands and there is some potential for discovery of petroleum and natural gas.

Unconsolidated deposits of Quaternary clay, sand, gravel and till cover the bedrock irregularly throughout the planning area.

3. SURFICIAL GEOLOGY

The unconsolidated Quaternary deposits, comprising the soils of the Region, reflect the complex sequence of glacial advances and retreats which affected the Region during the past million years.

During the last glacial advance, the glaciers scraped residual soils loose from the bedrock and transported the debris southward. Approximately 13,000 to 8,000 years ago, with warming climatic conditions, the ice sheet, which had extended south of the Region, melted and retreated. The transported debris was left behind in place as morainal deposits and transported by melt-water and deposited in river beds and lakes as glaciofluvial and glaciolacustrine deposits respectively. The distribution of the surficial deposits lying south of 50°N latitude is illustrated on maps prepared by Boissonneau.¹

¹ These maps are:

- a) Surficial Geology: Algoma-Cochrane. Map S365, Ontario Department of Lands and Forests. Scale 8 miles to 1 inch, 1965.
- b) Surficial Geology: Algoma, Sudbury, Timiskaming and Nipissing. Map S465, Ontario Department of Lands and Forests. Scale 8 miles to 1 inch, 1965.





The greater part of the Region is covered by ground moraine, consisting predominantly of clay to sandy till. Relatively large areas, including the Great Clay Belt extending from Lake Abitibi through Timmins and westward, and the Lesser Clay Belt north of Lake Timiskaming, are underlain by clay and silt deposited in proglacial lakes. Smaller areas covered by glaciolacustrine clay and silt deposits occur on the north shore of Lake Huron, in the Sudbury Basin and near Lake Nipissing. The glaciolacustrine deposits comprise much of the better agricultural lands of the Planning Region.

Glaciofluvial deposits, forming outwash plains, valley trains and eskers, cover relatively small portions of the region. They consist of generally well sorted sand and gravel and are frequently important sources of aggregate. Following retreat of the ice-sheet from the Region, a shallow sea invaded the Hudson Bay Lowlands, and marine clays were deposited over much of that area.

4. SOIL TEXTURE

Soils in Northeastern Ontario have developed as a result of glacial and post-glacial processes. The soil texture is related directly to parent material and to the method of soil deposition.

Clay and silt materials have been derived largely from sediments deposited in proglacial lakes. Occasionally, however, some of these soils may have been reworked with other materials as a result of a glacial re-advance. Clay soils in the Hearst, Kapuskasing, Timmins and Cochrane areas have been derived from sediments deposited at the time of proglacial Lake Barlow - Ojibway. Soils in the Little Clay Belt (New Liskeard - Earleton areas) were also deposited as lacustrine materials

at the time of the proglacial lake.

Loam soils result from materials deposited by the glaciers, usually in the form of glacial till. Loam soils may also be formed from materials deposited at the time of ponding of glacial melt waters. Large deposits of loam soils are found in the Sudbury - North Bay and the Manitoulin areas.

Sand soils arise from glacial till and glacial outwash deposits. These soils are predominant throughout much of the southern half of the Planning Region.

Peat and organic soils over marine sediments result from deposition of vegetative matter in association with poorly drained land. The north half of the Planning Region is characterized by organic soils overlying marine sands and clays. Map 6 portrays the location of the various soil textures found within the Planning Region.

5. SOIL DEPTH

While deep soils are generally of benefit to the agricultural and timber industries, they are an impediment to mining exploration and development. Shallow soils are a limitation to lake productivity. Soil depth within the Planning Region can be categorized into four general classes;¹

- deep (1.2 metres - 4 feet or more)
- deep with some shallow
- shallow (.3 to 1.2 metres - 1 foot to 4 feet)
- bare with some shallow (less than .3 metres - less than 1 foot)

¹ The rationale for depth classes is based upon the limitation of soil depth to plant production.

Shallow soils and bare with some shallow soils are predominant throughout the southern part of the Planning Region (mainly in the Northeastern Ministry of Natural Resources Administrative Region). Deep and deep to shallow soils predominate in the central and northern areas of the Planning Region. The general division between the deeper and the shallower soils occurs along the height of land separating the Arctic and Great Lakes drainage basins, Map 7.

6. TOPOGRAPHY AND ELEVATION

Topography can be an asset in terms of recreation use but it also can be a detriment to ground transportation construction. Most of the north central portion of the Planning Region has a rolling topography. The southern portion of the Region is predominantly hilly, Map 8. The division between these two topographic areas is generally the Arctic - Great Lakes watershed divide. Flat topography is associated with the Great Clay Belt and Hudson - James Bay Lowlands while generally very hilly topography occurs south of the divide in association with bedrock uplands, Maps 7 and 8.

Elevations within the Northeastern Ontario Planning Region vary from sea level, 0 metres (0 feet) at the coast of Hudson Bay to over 457 metres (1,500 feet) along the watershed divide. From the height of land southwards, the elevation decreases 177 metres (581 feet) at the shore of Lake Huron. The highest elevation in Ontario, 686 metres (over 2,250 feet), is located on the Ishpatina Ridge in Corley and Ellis Townships. The slope northward from the watershed divide differs significantly from the slope southward. Northward the elevation decreases on the average 0.8 metres per kilometre (4.4 feet per mile). The slope south from the height of land is 1.7 metres per kilometre (9.2 feet per mile). Few

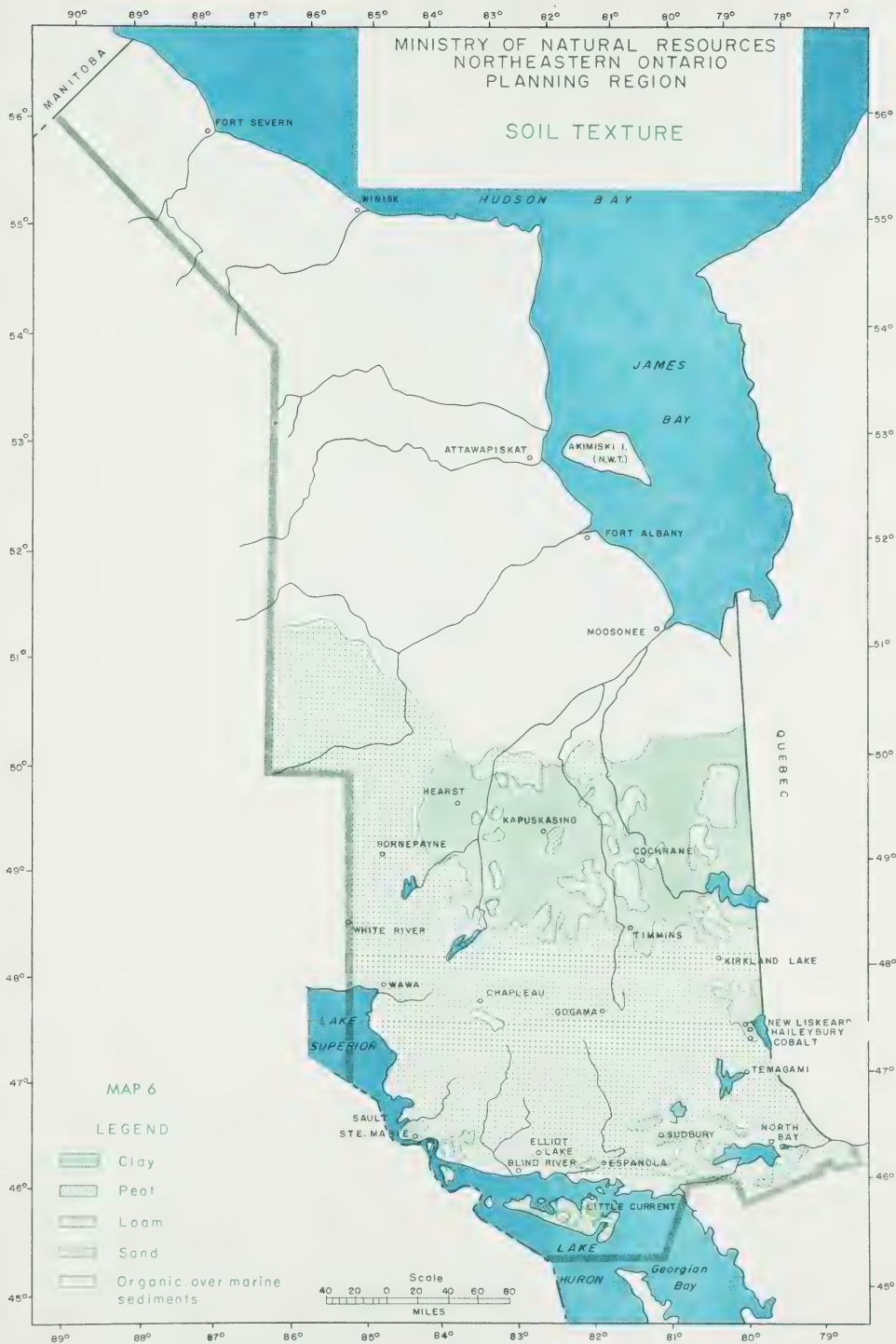
Natural Setting

areas within the Hudson - James Bay Lowlands, an area notable for its flat relief, are above the 152 metre (500 foot) elevation level. The Sutton Hills reach an altitude of 213 metres (700 feet). With the withdrawal of the continental ice sheets, all areas within the Planning Region are experiencing isostatic rebound. The Hudson - James Bay Lowlands have been experiencing this gradual uplifting of the earth's crust at a more rapid rate, such that land is emerging along the coast at approximately 1 metre (3.28 feet) every 100 years (Map 9).

7. DRAINAGE AND SURFACE WATERS

The Northeastern Planning Region drains both north into Hudson Bay and south into the Great Lakes. The divide or height of land between the Arctic Drainage Basin and the Great Lakes Drainage Basin extends in an east-west direction to the north of Kirkland Lake and to the south of Gogama, Chapleau and Hornepayne. The greater part of the Planning Region is drained by an extensive system of northern flowing rivers such as the Severn, the Winisk, the Attawapiskat, the Albany, the Moose and the Abitibi. The southern section of the Planning Region is drained by such rivers as the Ottawa, the Mississagi, the Spanish and the Montreal (Map 10). Recent counts, measurements and calculations give an estimate of 183,000 inland "lakes" with a total surface area of 2,734,576 hectares (6,757,295 acres). Boundary waters comprise about 47 percent of the Region's total surface waters (Table 2).

The rivers and lakes in Northeastern Ontario reflect both the direction of glaciation during the Pleistocene Era and the bedrock geology of the area. The lakes tend to be oriented in both southeasterly and southwesterly directions coinciding with the directions of ice movements.







The Precambrian Shield, the Great Clay Belt and the Hudson - James Bay Lowlands each have a different drainage pattern. The Precambrian Shield is characterized by numerous lakes and fast flowing rivers. Large river systems and a general absence of large cold water lakes are the two characteristic features of the drainage pattern of the Great Clay Belt. The Hudson - James Bay area is imperfectly drained with impeded runoff and a perched watertable. Better drainage occurs along the banks of the rivers.

Water flow is greatest during May. Thirty-five percent of the total annual flow of the Moose River (measured at the mouth) occurs in the month of May (Hydrologic Atlas 1969). The months of May, April, September and October account for 70 percent of the total annual flow of the Moose River. The Spanish and Mississagi Rivers exhibit the same flow characteristics as the Moose River.

8. FOREST VEGETATION

The forests of Canada have been divided into eight regions based on marked differences caused by terrain, soil and climate. The Northeastern Planning Region falls within two broad forest regions: The Boreal Forest Region and the Great Lakes - St. Lawrence Forest Region¹ (Map 11).

A. THE BOREAL FOREST

The Boreal Forest Region, the more northerly of the two forest regions, is characterized by white and black spruce with smaller amounts

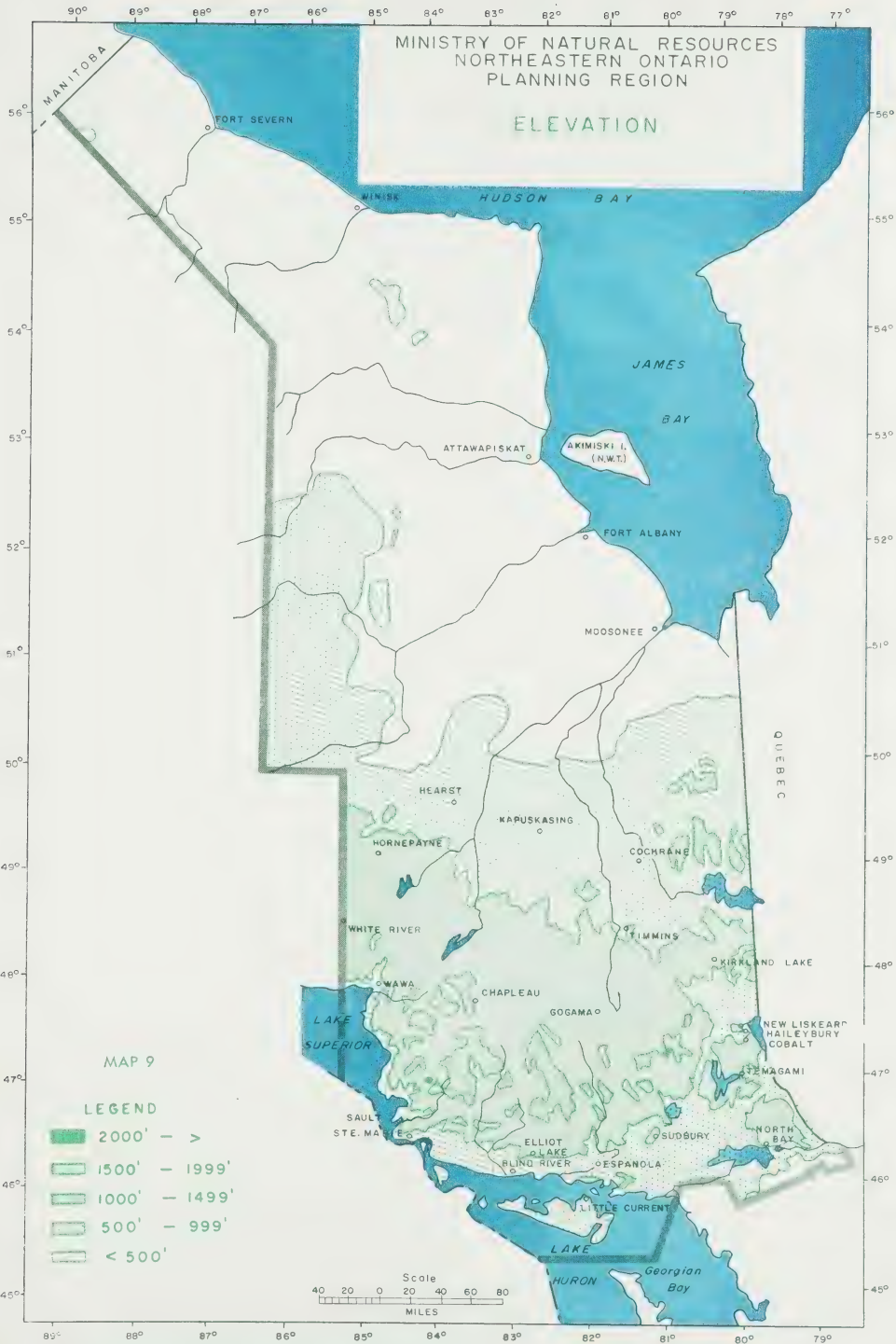
¹ Descriptions of Forest Section in both Boreal and Great Lakes - St. Lawrence Forest Regions have been summarized from: J.S. Rowe, Forest Regions of Canada, Department of the Environment, Queen's Printer, 1972.

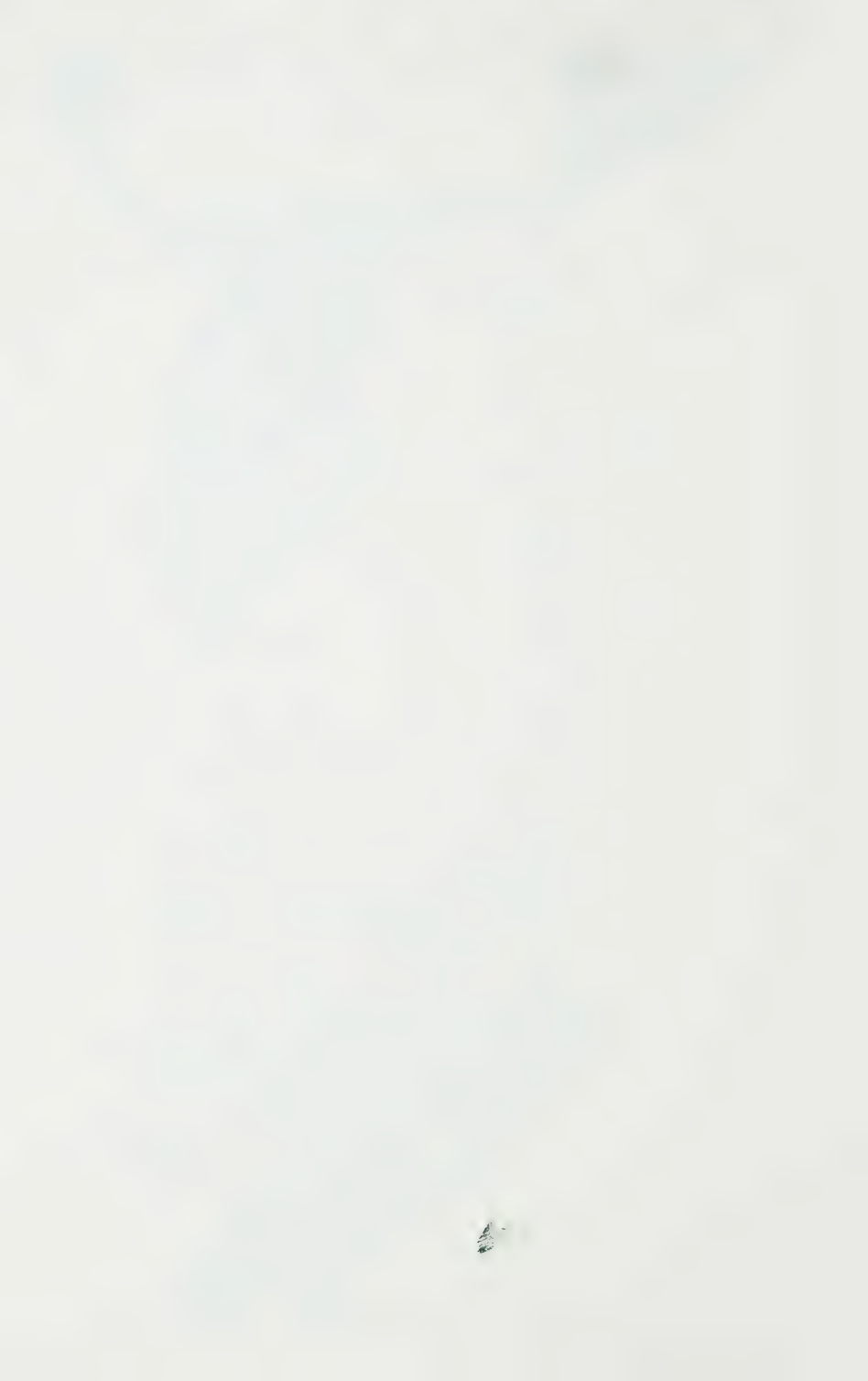
TABLE 2

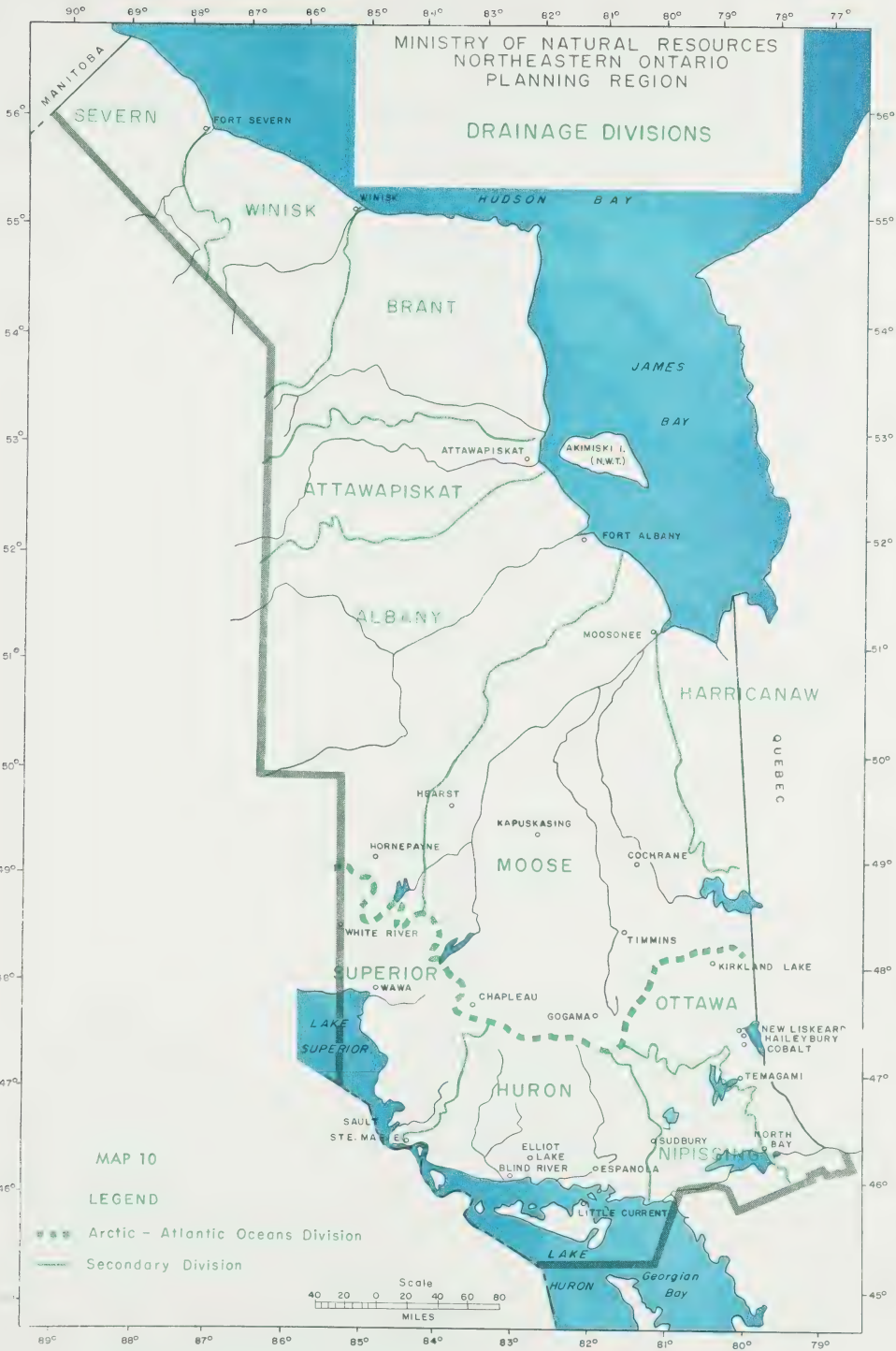
BOUNDARY WATERS AND INLAND WATERS
WITHIN THE NORTHEASTERN REGION

	<u>REGIONAL PORTION</u>	
	<u>HECTARES</u>	<u>ACRES</u>
Lake Superior	980,956	2,424,000
Lake Huron	1,432,990	3,541,000
St. Marys River	5,125	12,664
Lake George	<u>3,681</u>	<u>9,096</u>
Total Boundary*	2,422,752	5,986,760
Total Inland	<u>2,734,576</u>	<u>6,757,295</u>
GRAND TOTAL	5,157,328	12,744,055

* Lakes Abitibi and Timiskaming and portions of the Ottawa River are included with inland figures.







of tamarack, balsam fir and jack pine. Although the Boreal Forest is predominantly coniferous, deciduous trees such as poplar and white birch occur in abundance.

Within the Planning Region, the Boreal Forest can be subdivided into six forest sections exhibiting distinctive patterns of vegetation.

a) Forest Tundra Section

This section is the most northerly one of the Boreal Forest region. Within the planning area, the forest tundra is found along the shores of Hudson Bay. This section is a transitional zone between sub-Arctic forest and tundra. The unit consists of a pattern of tundra barrens and patches of stunted forest. The primary species are white and black spruce and tamarack, accompanied by alder and willow shrubs.

b) Hudson Bay Lowlands Section

The forest vegetation of this section has, in general, a sub-Arctic appearance because of the predominance of an open cover of black spruce in swamps and muskegs. However, on the riverbank levees, conditions of better drainage support forests of white spruce, balsam fir, aspen and white birch, similar in quality to those within the Northern Clay section.

c) Northern Clay Section

This forest section coincides with the Great Clay Belt within the Hearst, Kapuskasing, Cochrane areas. Characteristics of this forest section are vast stands of black spruce which cover the gently rising uplands as well as the lowland flats, alternating

in the latter position with extensive sedge and heath bogs. Drier sites within the forest section are characterized by hardwood or mixedwood stands of aspen, balsam fir, white and black spruce. Jack pine and white birch are found on many of the drier sites such as outwash deposits, lacustrine deposits and eskers.

d) Central Plateau Section

The Central Plateau Forest section is found in the western part of the planning area. Communities within this section are Hornepayne, Oba and White River.

Jack pine prevails and is found on sand and gravel deposits and on rocky outcrops. Black spruce is found on low lying sites. Mixture of the two conifers is common and white birch and aspen occur within the same association.

e) Missinaibi - Kirkland Lake Section

This forest is a portion of a larger forest section (Missinaibi - Cabonga) which generally follows the height of land and stretches easterly from the Missinaibi area into Quebec.

The predominant forest is mixed, consisting of an association of balsam fir, black spruce and aspen with scattered white spruce. In recent years, birch die back has been severe and balsam has suffered from the devastating affect of spruce budworm. Sand terraces and ridges are dominated by jack pine.

f) Superior Section

This broad forest section along the north shore of Lake Superior

is found in the Michipicoten and Wawa areas of the Planning Region. The forests are extremely variable, ranging from mixed types with luxuriant shrub undergrowth to pure conifer types with little or no undergrowth. A relatively stable mixed forest of spruce, balsam and aspen is characteristic of deep, medium textured valley soils. On hill slopes and the tops of low hills, birch is more predominant.

This section has been subjected to severe burning which has increased the proportion of aspen, white birch and pine.

B. THE GREAT LAKES - ST. LAWRENCE FOREST REGION

This forest region is a mixed forest characterized by eastern white and red pine, eastern hemlock, hard maple and yellow birch. Extensive logging of white and red pine has reduced the occurrence of these species within certain areas.

Within the Northeastern Planning Region, seven forest sections can be recognized.

a) Haileybury Clay Section

The Haileybury Clay Forest Section extends from Lake Timiskaming northward towards the height of land and envelops the area known as the Little Clay Belt. New Liskeard, Earlton and Englehart are found within this unit. Black spruce communities were characteristic on lacustrine areas but continual cutting has reduced this area of distribution. With the spruce are associated balsam fir, white birch and aspen, the prominence of the latter two species being greatly increased as a result of fires. There is

scattered white pine and white spruce along rivers and on lake shores on well-drained sites. Yellow birch, hard maple, red maple and red oak occur mainly at the head of Lake Timiskaming but the section is scattered throughout with white elm and black ash along the rivers.

b) Temagami Section

This forest section is a large upland area occupying most of the northern section of the Northeastern Administrative Region. The Temagami Section stretches east and west from Lake Temagami and occupies a generally southward sloping surface.

The typical association of the section consists of white pine with scattered white birch and white spruce. Another common but variable type is a mixture of birch, pine and spruce with balsam fir and aspen. Yellow birch and hard maple have only a scattered occurrence.

c) Algoma Section

The Algoma Forest Section has a varied topography resulting in varied vegetation. Characteristic of gentle northern slopes is a mixture of yellow birch, hard maple, white spruce and balsam fir. The upper slopes and tops of ridges are covered with pure hardwood stands of sugar maple and scattered yellow birch. White pine and occasional red pine dominate on the upper, steep south facing slopes; white spruce, cedar and balsam on the lower and middle slopes. After fire, aspen and white birch are often prominent.

d) Sudbury - North Bay Section

Extensive disturbance by cutting, fire and smelter fumes have destroyed or reduced the abundance of many of the naturally occurring species, so that the tree cover is predominantly of the hardy pioneer species: aspen and white birch. Sugar maple, yellow birch, white and red pine, balsam fir and black spruce have a scattered occurrence. Jack pine occurs on sand flats and other coarse textured soils.

e) Algonquin - Pontiac Section

Only the northern half of the North Bay Administrative District falls in this section. The characteristic species of the highlands consist of sugar maple, red maple, yellow birch, hemlock and white pine. Balsam fir is abundant, white spruce has a moderate distribution and jack pine appears on dry sandy sites.

f) Huron - Ontario Section

Only the northern most part of this section is in the Planning Region which includes Manitoulin, Cockburn and St. Joseph Island. Within this portion of the forest section, sugar maple forms the dominant association with a varying mixture of red maple, white elm, basswood, yellow birch, red oak, beech, aspen, white birch and white and black ash.

g) Georgian Bay Section

The shore and inland portions immediately adjacent to Lake Huron in the French River portion of the Planning Region form part of this forest section.

Sugar maple, beech, basswood, yellow birch, eastern hemlock, white pine, red maple and white ash form mixed stands on the uplands. White spruce is common on sand flats and other coarse textured soils. Hemlock appears to increase in abundance from the inland towards Georgian Bay. Along the thin soiled, rocky shores, scrubby stands of jack pine, trembling aspen, red oak, white birch, white and black spruce occur.

9. WILDLIFE AND FISH

A. WILDLIFE

Almost the entire Northeastern Planning Region is forested. Consequently, most of the terrestrial wildlife found in the Region are those species typically associated with the forest habitat. Species such as moose, black bear, beaver, marten, fisher, otter, lynx, timber wolf, red fox, red squirrels and varying hare are found throughout the Planning Region. Terrestrial birds such as the raven, blue and gray jay, yellow warblers, evening and pine grosbeaks, goshawk, red-tailed and sparrow hawks, osprey, snowy and great-horned owls and spruce and ruffed grouse are widely dispersed. However, as a general rule, most of these species become less abundant further north.

A wide variety of avian fauna associated with aquatic environments can be found throughout the Region because of the great number of inland lakes, rivers and streams and marine coastal areas. Species such as the common loon, black duck, common golden eye, common and red-breasted mergansers, lesser and greater yellowlegs and the herring gull typify this group.

Even though many animals are widely dispersed throughout the Planning Region, there are also a number of animals typically associated with certain areas. Examples are the white-tailed deer in the southern fringes of the Region; the polar bear, arctic fox, willow ptarmigan and sharp-tailed grouse of the Hudson Bay Lowlands; and the woodlands caribou of the far north. Sharp-tailed grouse and woodland caribou also have isolated populations further south.

The coastal wetlands of Hudson and James Bays are important. Significant populations of Canada and snow geese, as well as a great variety of ducks and shorebirds, breed in these wetlands. The open water expanses of the bays provide the only marine habitat in the province for aquatic mammals such as the ringed and harp seals and the beluga whale.

B. FISH

Mapping by Scott and Crossman (1973) indicates that some 81 fish species are present in the region. Differences in climate, limnological factors and species origin make it convenient to discuss the fish fauna in terms of four areas: Hudson Bay Lowlands, North Height of Land, South Height of Land and the Great Lakes.

a) Hudson Bay Lowlands

This area is typified by very low relief terrain with numerous muskeg swamps and few, rather small, shallow lakes. A notable exception to this is the Sutton - Hawley Lake System. Numerous tributary streams flow into major river systems such as the Severn, Winisk, Attawapiskat and Albany Rivers. Brook trout are found in many of these streams and rivers. Most of the small,

shallow lakes are best suited for warm-water species such as yellow pickerel and northern pike. Lake whitefish and white sucker are also found throughout the Hudson Bay Lowlands. This area probably has the lowest fisheries potential of the four zones within the Planning Region because of the relative lack of aquatic environments and the far northerly location. The 32 fish species present within the area include eight with sport fish potential, 14 with commercial fish potential and five with bait fish potential.

b) North of the Height of Land

This zone encompasses that area North of the Height of Land and extends to the Hudson - James Bay Lowlands.

Although part of the Precambrian Shield, this area has a flatter topography than that South of the Height of Land. Lakes are more numerous and larger than in the Lowlands and tend to be shallow, relatively productive for Shield lakes and best suited to warm-water fish species. The most notable example of this is Lake Abitibi. Yellow pickerel, northern pike, lake whitefish and white sucker are found throughout this area. Brook trout and lake trout lakes are of major importance only along the southern borders. A limited number of brook trout streams are found throughout the zone. Of the 37 species present, nine have sport fish potential, 14 have commercial fish potential and nine have bait fish potential.

c) South of the Height of Land

This area lies generally South of the Height of Land and contains

the remaining land mass of the Northeastern Planning Region. Almost the entire area is Precambrian Shield with sharp relief and granitic outcroppings. Numerous lakes tend to be small, relatively unproductive and oligotrophic. This area contains approximately 35 percent of the native inland lake trout populations within the province. There are also numerous lakes with native brook trout populations, particularly in the western half of the area. Warm-water species, principally yellow pickerel, northern pike and smallmouth bass are scattered throughout the area but tend to become more common in the eastern half. Lake Nipissing and its warm-water community of yellow pickerel, perch and northern pike is a significant and notable entity in this area. Lake whitefish and white sucker are common throughout the area. Maskinonge are found only along the southern border. The round whitefish is relatively common in this area but is not found elsewhere in the Planning Region. The South Height of Land area contains the greatest fish diversity of all the areas, next to the Great Lakes. The 59 fish species include 15 with sport fish potential, 24 with commercial fish potential and 16 with bait fish possibilities.

d) Great Lakes

Only northern parts of Lakes Superior and Huron fall within the Northeastern Planning Region. Lake Superior, followed by Lake Huron, is the most oligotrophic of all the Great Lakes. Consequently the fish fauna of these lakes tend to be basically cold-water species. The lake trout was the predominant salmonid in both lakes. Lake trout populations have been severely depleted due to the combined effects of the parasitic sea lamprey and

over-exploitation but recent management efforts seem to be improving the stocks in Lake Superior. Other salmonids have been introduced in both lakes by Ontario and United States agencies with successful results (rainbow and brown trout, coho, pink and chinook salmon). Recent attempts by Ontario to rehabilitate Lake Huron with splake (lake trout and brook trout hybrid) are showing signs of success. Rainbow trout particularly have found a niche along the north shore of both lakes. The coregonid complex (lake and round whitefish, lake herring, chubs species complex) is highly diversified in these lakes but in recent years has become threatened by over-exploitation and introduced species (smelt, alewife).

Warm-water species are also found in both lakes, principally in shallow waters. Yellow perch, yellow pickerel, northern pike and smallmouth bass have developed substantial populations in certain areas. The 51 fish species present within the eastern portion of Lake Superior include 14 with sport fish potential, 21 with commercial fish potential and 11 with bait fish potential. The northern portion of Lake Huron contains 71 fish species, including 18 of sport fish potential, 28 of commercial fish potential and 19 of bait fish potential.

10. SITE REGIONS AND SITE DISTRICTS

Within the Northeastern Planning Area, there are five site regions. These have been designated by G.A. Hills as site regions 1E to 5E¹ (Map 12).

¹ Two additional site regions (2W & 3W) are found within the Planning Region. These site regions occupy a relatively minor acreage of the Region's total.



A site region is an area of land within which the response of vegetation to the features of land form follows a consistent pattern. Each site region is a region of relatively uniform effective climate and is therefore a region of particular biological productivity characteristics. In each site region soil, climate and living organisms interact in a particular way.¹

In forestry, a site region is a region providing a base for forest management. Information regarding forest succession, forest growth and yield for any one physiographic site can be applied to all physiographic sites of the same condition and type within a site region.

Within each site region, site districts have been defined. A site district is a subdivision of a site region based on a characteristic pattern of physiographic features which set apart fairly large areas from one another. Each site district represents a distinctive combination of physiographic and biotic conditions.

Site regions and site districts have direct application for various programs of the Ministry such as parks planning, timber and wildlife management.

¹ For a more detailed discussion of Site Regions refer to:

- Hills, G.A. A Ready Reference to the Description of the Land of Ontario and its Productivity, Ontario Department of Lands and Forests, 1959.
- Hills, G.A. The Ecological Basis of Land Use Planning, Ontario Department of Lands and Forests, 1961.

CHAPTER III

SOCIAL SETTING

1. HISTORY

An historical overview is important in developing a plan for an area. The future of Northeastern Ontario will be dependent to a large extent on the infrastructure and developments which occurred during the nineteenth and early twentieth centuries. The following are important elements in the Region's history.

A. PREHISTORY

Archaeological field work indicates at least an 11,000 year span of prehistory for Northern Ontario. Human use of the area began after the retreat of glacial ice masses, at a time when climatic conditions and predominant fauna differed considerably from today. Over a period of several thousand years population size increased as the aboriginal groups continued refining their successful adaptation to the land. Gradually, band societies settled into specific areas and followed a regular seasonal cycle which focused upon available resources.

The distribution of Cree and Ojibwa people met by the first European explorers was based on an uninterrupted pattern of cultural development, innovations and interaction.

B. FUR TRADE

The first major focus of European fur trading in Ontario was along the Ottawa River, Mattawa River and Lake Nipissing route. A fur

Social Setting

trading alliance between the Hurons and the French began in 1609, but following the destruction of the Hurons in 1649, the French began to take a more active role in the trade. Between 1680-1760 they established posts on Lakes Huron and Superior, the most important of which was Michilimackinac. Also, in the 1680's and 1690's the French initiated attacks against the Hudson's Bay Company which began to develop a fairly prosperous trade around Hudson's Bay in the 1670's. This rivalry in the north was not resolved until 1713 when the Hudson's Bay Company position was restored by the Treaty of Utrecht.

After the defeat of the French in 1760, Scottish and English merchants, who eventually grouped together in the North West Company, took over the Ottawa-Mattawa route, extending their operations over the entire area both north and south of Lakes Huron and Michigan. With the loss of Michilimackinac to the Americans in 1790, Sault Ste. Marie became the stopover and provision depot for goods on the upper lakes.

In the north, from 1760 to 1820, the Hudson's Bay Company initiated a policy of opening inland posts in imitation of their competitors to collect the furs from the Indians. Thus, posts were established on the Moose-Missinaibi-Michipicoten Rivers and Albany, Winisk and Severn Rivers. Moose Factory became the most important post in the north; here trade goods were received from, and furs were shipped to, York Factory.

Following 1821 and their annexation of the North West Company, the Hudson's Bay Company attempted to re-orient the east-west trading pattern of the North Westers by shifting their concentration to the

Moose River drainage-James Bay area, with Moose Factory the depot on Hudson's Bay and Michipicoten the entrepot on Lake Superior for their north-south system. The expense and inefficiency of this route resulted in the transfer of the Lake Huron-Superior areas to the Montreal department in 1863, with Sault Ste. Marie as the primary depot.

By the 1880's, a decline in fur resources and the influx of settlers had contributed to the demise of the fur trade in the Lakes Huron and Superior and Rainy River areas. Fur returns in the north were still lucrative and in the early twentieth century the Hudson's Bay Company was faced with competition from the Revillon Freres Company on the Albany, Attawapiskat, Moose and Winisk Rivers. This competition ended in the 1930's.

Today there are remnants of abandoned Hudson's Bay and Revillon Posts which remain as witness to a period when fur trading was predominant in this area. Modern day posts remain an important component of the more northerly portions of the Planning Region.

C. FOREST INDUSTRY

The forests of the Planning Region were first utilized by the white man in the mid-1800's.

The white pine industry moved into the Ottawa Valley following the route of the fur traders through the North Bay area. As early as 1839 a branch had extended out of this artery from Mattawa to the head of Lake Timiskaming.

In the 1870's several companies began extracting sawlogs from

points along the north shore of Lake Huron. By the late nineteenth century there were mills at Mattawa, Callander, Thessalon, Blind River, New Liskeard and several other small settlements.

Early access and shipment of logs and squared timber was by water. This soon changed, in part, due to the railways. The railways linked communities formerly established by water access and at the same time began new communities on their own. They opened up large areas to agriculture and mining. These activities created a further demand for forest products for building material and heavy construction timber.

Lumbering in the more interior areas initially provided construction supplies for transcontinental railways and materials for the area's developing mining and agricultural communities. The first lumber operations were established on the Canadian Pacific Railway access around 1900 and peaked in the 1920's. Some of the more important sawmills were located at Dalton, Nicholson, Devon, Sultan and Bertrand's Siding.

Two further developments served to increase the use of the forest resource. As the gasoline engine became useful as a source of power for long distance haulage and travel, greater accessibility to forested land was possible. Secondly, the ability to turn wood fibre into pulp for use in paper and synthetics increased the demand for wood fibre.

The first northern extension of the pulp and paper industry occurred in the Sault Ste. Marie-Espanola-Sturgeon Falls areas. From the late

nineties onwards, mills were established in these centres to supply the Canadian market with pulp and paper products.

The pulp and paper industry did not move inland to areas such as Kapuskasing until 1912 when railroad development took place. Huge organized companies were involved in this activity and they constructed mills and new model towns along the National Transcontinental Railway at Smooth Rock Falls and Kapuskasing. A similar development occurred at Iroquois Falls.

The depression of the 1930's and World War II saw little additional development in the forest industries. Immediately following World War II, however, the industry began an expansion which has since continued steadily upward with only momentary pauses. The greatly increased demand for housing and construction material, newsprint, and pulp bases for other products forced this expansion.

The demand for more wood at less cost caused the industry to shift from the bucksaw, horseskid, and river drive to the power saw, power skidder, and truck haul. Total mechanization brought more and better roads. The government has built secondary highways through the area while the forest industry has built and maintained an additional 6,759.25 km (4,200 miles) of roads. In addition, the Ministry of Natural Resources has maintained about 3,701.50 km (2,300 miles) of road and constructs a further 80.47 km (50 miles) annually. These roads have not only permitted extraction of forest products but have also opened larged areas to recreation.

The forest resource has never been used in isolation. Initially, it

provided fuel and shelter for native and settler alike. It has provided construction materials for railways and mines and it has been the means of opening up areas for recreation.

D. MINING

Mining in the Northeastern Planning Region was stimulated by the results of the Geological Survey of Canada, which commenced in 1842, and by the copper boom in the United States. Resultant surveys were responsible for the attempts to mine copper in various locations, Bruce Mines being the only site where substantial production resulted. This early mining activity served to spark interest in northern mineral exploitation. In 1883, during the construction of the Canadian Pacific Railway through the Sudbury Basin, copper-nickel ore was discovered. The subsequent development of Sudbury as a mining centre was immensely significant in the development of mining and mining communities in Ontario.

In 1897 iron ore was discovered in the Wawa area and was shipped by way of Michipicoten to the mills at Sault Ste. Marie. Iron mining and smelting had a significant impact on the Algoma region, and the production of iron and steel at Sault Ste. Marie was important to its development into a major industrial and commercial centre.

In 1903 silver was discovered at Cobalt and the resultant development of Cobalt was a dominant factor in the establishment of an integrated society and economy in the Little Clay Belt. The Cobalt experience was significant for it created a foundation of expertise for subsequent mining developments. It also encouraged prospecting and in 1907 and 1908 silver was discovered at South Lorrain, Elk Lake

and Gowganda. Mining development peaked in these camps in the 1920's, declining thereafter. Continued prospecting, following Cobalt, led to gold rushes at Larder Lake (1906), Porcupine (1909), and Kirkland Lake (1911). Relatively stable communities grew up in association with mining activity in these areas.

In the 1930's, an increase in the world price of gold and low overhead costs encouraged widespread, but brief, gold mining developments in locations such as Wawa. Since the 1940's, post war demands for supplies of iron ore have led to major mining operations near Capreol, Temagami, Wawa and Kirkland Lake.

A more recent significant mining development in Northeastern Ontario occurred in the early 1950's with the mining of uranium at Elliot Lake. By the early 1960's, with the loss of contracts, most of the mines reduced production or ceased operation. The 1970's have, however, seen an expansion of the mines and population within the area.

Another recent significant mining development occurred in the Timmins area in the mid-1960's with the establishment of the large Texas Gulf base metal operation.

E. AGRICULTURAL COMMUNITIES

The majority of agricultural settlement in the Northeastern Planning Region took place between the late 1860's and 1930's. It occurred largely as a response to the shortage of arable land in Southern Ontario, active government promotion of the north and the presence of lumbering and mining centres where there was a market for agricultural produce, as well as an alternate source of employment for

settlers. Settlement roads were built to encourage the agricultural development in some portions of Northeastern Ontario, notably the Nipissing area.

Apparent fertility and accessibility by water encouraged the survey of the north shore of Lake Huron and the Spanish area in the 1850's. By 1862, much of Manitoulin had been obtained by treaty from the Indians. By 1880, much of it was occupied by settlers from Southern Ontario. The premium of good land resulted in an economy dependent upon the lumbering and fishing activities in the area. The shallow soil proved adaptable to stock raising and a relatively stable agricultural settlement gradually resulted.

Settlement along the north shore of Lake Huron, St. Joseph Island, and in the lower Spanish Valley was well underway by 1870. It was assisted by the completion of the Canadian Pacific Railway. Again the presence of lumbering and fishing activities provided settlers with job opportunities and markets, but the decline in these activities after 1900 left these settlements weakened.

In the 1870's, the Ottawa Valley forest industry began to extend northwards into the Mattawa Valley and independent Irish and French settlers initiated marginal farming in the Mattawa Valley to produce for the shanty markets of this area. The opening of the Canadian Pacific Railway facilitated settlement of the Nipissing lowland and Sudbury basin.

The Timiskaming Clay Belt was the ultimate extension of the Ottawa Valley settlement. Independent farming in this area originated from

the needs of the forest industry in the 1880's and during the 1890's settlers trickled in from "Old Ontario". They were eventually numerous enough to secure the construction of the Timiskaming and Northern Ontario Railway. Agriculture which developed around the mining centres was relatively stable but declined following 1930.

The Cochrane Clay Belt was opened between 1904 and 1914 with the aid of the National Transcontinental and Timiskaming and Northern Ontario Railways. Agriculture here developed in nodes around towns and along railways. Major growth occurred in the 1920's lasting until 1945.

The Northeastern Planning Region today contains many farm sites and landscapes representative of the early settlement.

F. FISHERIES

a) Lake Huron

Commercial fishing began in the 1830's and with the provision of rail access to Georgian Bay in the 1850's, a large scale fishery had developed. Fisheries were particularly important to such communities as Gore Bay and Thessalon in their early years. During the period 1880 to 1919 and during the 1930's, the annual total catches and employment were at their highest.

Commercially valuable species declined rapidly in the 1940's. The decline is associated with invasion of the sea lamprey, some overfishing and water pollution in Saginaw Bay. The present level of the commercial catch is the lowest on record.

b) Lake Superior

By 1861 a substantial fishery had been developed on Lake Superior and was entirely dependent on the Southern United States market for pickled fish. With the Civil War in the United States, the complete collapse of this fishery occurred.

Canadian catch and employment increased gradually from the 1860's to peak from 1910 through to the 1940's. In the 1970's, the catch has attained the volume of the 1940's; however employment is substantially lower.

G. TRANSPORTATION

a) Railways

The development of Canadian transcontinental railways was crucial to the opening of Northern Ontario. The construction of the Canadian Pacific and Canadian National Railways more than any other factor was responsible for the economic development and settlement of the north. The railways were also responsible for the connection of the Planning Region to Southern Ontario.

Local railways were also significant in the development of North-eastern Ontario. Both the Algoma Central and the Ontario North-land Railways were initially built to encourage settlement and to permit the transportation of natural resources. The Algoma Central Railway was developed largely through the efforts of private individuals, aided by a large land grant from the Ontario Government. Both railways presently provide north-south rail transport for resource products and tourist traffic.

b) Shipping

Coastal traffic on the Upper Great Lakes began with the settlement of lower Georgian Bay in the 1820's and following the opening of the American Sault Canal in 1855, it extended to Lake Superior.

Overall, the significance of internal shipping to the integration of economies and communities on the upper lakes increased by the 1850's with the development of a through traffic shipping network linked to railways. By the mid-twentieth century, with the completion of the St. Lawrence Seaway, the upper lakes and Sault Ste. Marie canal became important as a part of the St. Lawrence-Great Lakes shipping route. Little Current, Spanish, Blind River, Bruce Mines, Thessalon, Sault Ste. Marie and Michipicoten have all been strategically important Great Lakes harbours in Northeastern Ontario.

Historically, inland steam boats were important to providing settlement or resource access in the Timiskaming, Nipissing, Temagami and Lake Abitibi areas. These boats in Lakes Timiskaming and Nipissing provided service for the steady influx of settlers, prospectors and miners which occurred in the late nineteenth and twentieth centuries. The Temagami steamships served tourist traffic. On Lake Abitibi, steamships were used in conjunction with the woods and commercial fish industry.

H. HYDRO-ELECTRIC DEVELOPMENT

With settlement and the development of primary industries in Northeastern Ontario, the demand for hydro-electric power grew. Because

of the abundant fast-flowing rivers with steep gradients, the area was quickly developed to serve this demand. Construction of hydro plants to meet domestic and industrial uses was undertaken by private companies as well as Ontario Hydro. Notable private developments are those of Great Lakes Power, Spruce Falls Power and Paper Company, Abitibi Power and Paper Company. Major dams in Northeastern Ontario are associated with the Mattagami, Abitibi, Mississagi, Montreal and Michipicoten Rivers. In some locations, small communities have been developed in conjunction with the construction and maintenance of the dams. An example would be Fraserdale.

I. FOREST FIRES

The first major fire of recent times was recorded in 1855. This fire extended the length of the Height of Land from the Quebec border to Michipicoten on Lake Superior. More recent well-known fires are associated with the Porcupine-Matheson-Haileybury and upper Mississagi River areas. The Porcupine-Matheson-Haileybury fires resulted in extensive losses of life and property. The Mississagi fire destroyed over 261,022 hectares (645,000 acres) of timber.

As a result of the Porcupine fire (1911) and the Matheson fire (1916), the Provincial Government passed the Forest Fire Prevention Act in 1917, which established the lookout tower for fire detection. However, in this early period of fire suppression, fire protection duties were carried out largely by means of two man canoe patrols.

In 1924, the Ontario Government established the Ontario Provincial Air Service, based in Sault Ste. Marie. The Air Service was created in part to assist in fire fighting and aerial surveillance. It also

provided other government services as required. Since 1924 there have been considerable improvements in fire fighting and aerial surveillance techniques. In 1975, the Air Service celebrated its 50th year of operation.

J. INDIAN TREATIES

In the Northeastern Planning Region treaties were made with Indians which permitted settlement and the development of natural resources. Unlike previous treaties in Southern Ontario, treaties in Northeastern Ontario were generally larger and made for different reasons. Indian lands in the Northeastern Planning Region were sought for mining and lumbering in addition to settlement and farming (Table 3).

Treaty No. 45 is unique in that Manitoulin Island was reserved for all Indians of Ontario to settle. However, by 1862, with continuing pressure by white settlers to homestead the Island, a new treaty was made. Through this new treaty the major part of the Island was surrendered and the Indian Settlement program was terminated.

In certain parts of the Planning Region the issue of native land and treaty rights is being examined. The outcome of this evaluation may have major implications for resource management.

K. LAND DISPOSITION

Historically, disposition of Crown lands to individuals for settlement occurred in one of three methods. The first of these was the military service grant. This was a free grant and no settlement duties were required.

TABLE 3

MAJOR INDIAN TREATIES INVOLVING LANDS IN NORTHEASTERN ONTARIO

<u>DATE</u>	<u>TREATY NO.</u>	<u>AREA INVOLVED</u>
June 30, 1798	Treaty No. 11	St. Joseph Island involving Chippewa Tribe
August 9, 1836	Sir Francis Bondhead, Treaty No. 45	Manitoulin Island involving Chippewa and Ottawa Tribes
August 9, 1850	Robinson Treaty No. 96	Lake Nipissing-north shore Lake Huron north to Height of Land
September 7, 1850	Robinson Treaty No. 60	North shore of Lake Superior involving Ojibway Tribe
September 9, 1850	Treaty No. 61	Lake Nipissing north to Height of Land involv- ing Ojibway Tribe
October 6, 1862	Manitoulin Treaty Agreement No. 94	Ojibway Indians on Manitoulin Island
1905 - 1906	James Bay Treaty No. 9	Height of Land north to Albany River involv- ing Ojibway & Cree Tribes
October 31, 1923	Williams Treaty	Involving Chippewa Tribe, Lake Nipissing south
November 15, 1923	Williams Treaty	Involving Mississaga Tribe, Lake Nipissing south
May 30, 1929	Adhesion to Treaty No. 9	From Albany River to Manitoba border involv- ing the Cree Tribe

Settlement grants were also free grants that were given to encourage homesteading. However, unlike the military service grant, certain settlement duties were demanded.

The third method was through outright purchase from the Crown. The purchaser was obligated to perform certain duties before title of the land could be claimed. Large hectares (acreages) of mining land patents were disposed of in this manner.

Railway land grants were also given in the past by the Ontario Government to assist railways in the construction of railway lines in various portions of the province. The Algoma Central Railway was granted approximately 863,599 hectares (2,134,000 acres) to assist the company in the development of a railway from Sault Ste. Marie to Hudson Bay. Of the original grant, 323,748 hectares (800,000 acres) were returned to the Ontario Government in 1941 and the mineral rights on another 42,897 hectares (106,000 acres) were returned to the Crown in 1964.

Presently, under the authority of the Public Lands Act, the Minister of Natural Resources is charged with the management, sale and disposition of the public lands and forests. Sections of the Act permit public use appropriations, and dispositions, by sale and patent. In addition to disposition by sale and patent, the Minister can allocate private use of Crown land for specific periods of time for various purposes through Crown leases, licences of occupation, land use permits or through mining claims.

2. DEVELOPMENT PATTERNS

There are two distinct development patterns within the Northeastern Planning Region, a largely developed area and a largely undeveloped area. The developed portion of the Region is generally found south of the 50th degree latitude; the undeveloped area occurs to the north and is associated with the Hudson-James Bay Lowlands.

A. UNDEVELOPED LANDS

The Hudson-James Bay Lowlands had a 1973 population of nearly 5,000. Most of this population was found in eight communities along the coastline. The twin communities of Moosonee and Moose Factory had a combined population of 3,160 or 62 percent of the total lowlands population.

The Moosonee area, which functions as a supply centre for the lowlands, has achieved a degree of local government in the form of an Area Development Board.

Within the Hudson-James Bay Lowlands, patented lands exist only in the communities. Nine Indian Reserves set up by the Federal Government are located throughout the area. In recent years, exploration companies have been granted various licences of exploration and mining leases authorizing exploration activity for oil, gas and minerals.

Transportation over long distances throughout the lowlands is predominantly by aircraft, with landing strips located at Fort Severn, Winisk, Attawapiskat, Fort Albany and Moosonee. Pontoon and ski equipped aircraft, however, continue to provide the major form of transportation for isolated communities for such requirements as

medical services and exploration. The Ontario Northland Railway connects Moosonee with Cochrane and North Bay, and with the exception of a winter road system between Moosonee and Attawapiskat, represents the only form of land transportation. The Moosonee Transportation Company Limited operates several barges out of Moosonee, which service the coastal villages.

Transportation over short distances is accomplished by canoe in the summer and snowmobile in the winter.

The other major form of development which exists in the lowlands is a series of former radar bases built as part of the Mid-Canada line in the mid-1950's. These bases have been abandoned since the mid-1960's.

B. DEVELOPED LANDS

South of the 50th degree parallel, approximately 15 to 20 percent of the area is privately owned, with another two percent contained within Indian Reserves. The distribution pattern of patented lands is illustrated in Map 13 and shows a strong correlation with the two major highways (11 and 17).

Freehold townships (held by timber companies and the Algoma Central Railway) to the south of Hearst and north of Sault Ste. Marie account for over 20 percent of the patented lands. Significant areas were also disposed under the Veterans Land Program. This occurred primarily in the Great Clay Belt, especially around Timmins and Cochrane, as well as along the North Channel, the Sault Ste. Marie area and New Liskeard.

Lands patented for agriculture occur along Highway 11 between Hearst and Matheson, in the Little Clay Belt north of New Liskeard, along Highway 17 between Espanola and Sault Ste. Marie, and in the North Bay-Sudbury areas. Agricultural land patents also characterize much of the private land holding on Manitoulin Island.

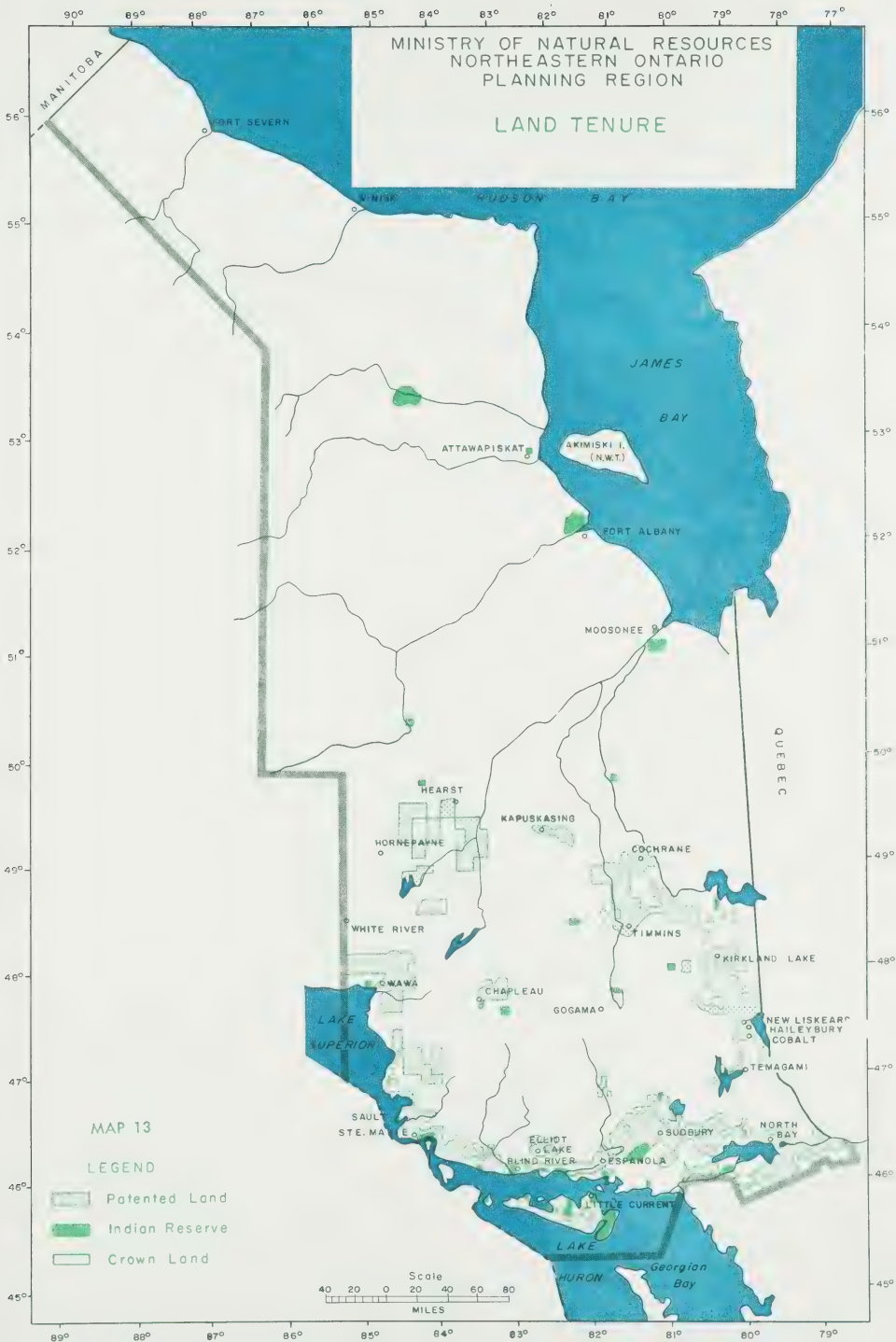
Past and present mining patents account for a major portion of the private ownership in and around such communities as Cobalt, Haileybury, Timmins, Kirkland Lake, Sudbury, Elliot Lake and Wawa.

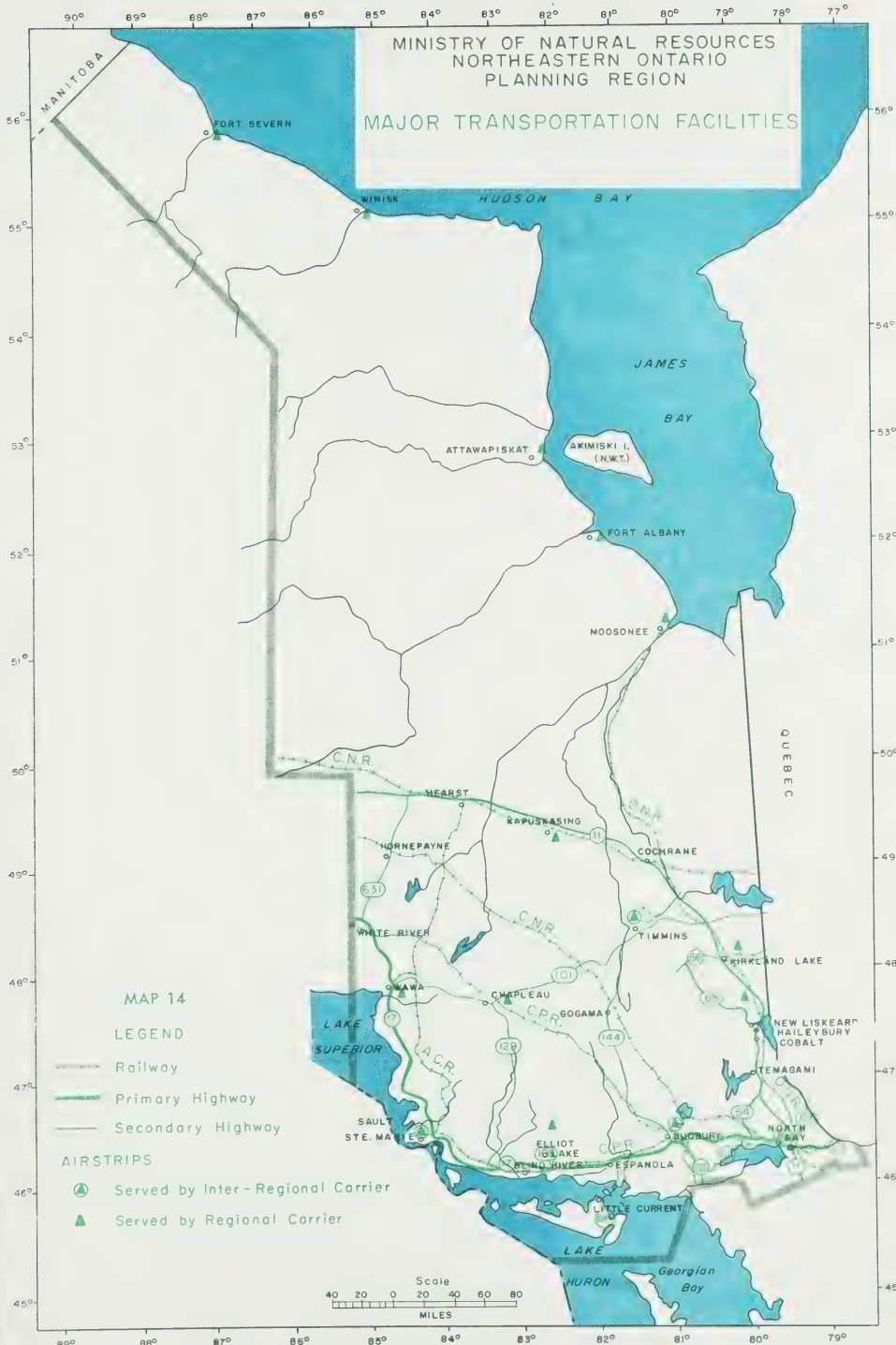
Other private land holdings occur around lakes as a result of cottage land disposition.

3. TRANSPORTATION

The road transportation network in the developed southern portion of the Northeastern Planning Region is based upon Highway 69, Highway 17, and Highway 11 (Map 14). In addition, there are a number of important secondary highways, namely:

- Highway 631 from White River to Highway 11;
- Highway 144 from Sudbury to Timmins;
- Highway 129 from Thessalon to Chapleau;
- Highway 108 from Highway 17 to Elliot Lake;
- Highway 101 from Wawa to the Quebec border via Chapleau, Timmins, Matheson;
- Highway 68 from Espanola to South Baymouth;
- Highway 66 from Matachewan to the Quebec border via Kirkland Lake;
- Highway 65 from Matachewan via Elk Lake and New Liskeard to the Quebec border;
- Highway 64 from Marten River to Rutter





Several railway lines serve the Planning Region:

- the Canadian National Railway which has two lines: one running from North Bay and Sudbury northwest through Gogama, Foleyet, Hornepayne and Longlac; and a second line from La Sarre, Quebec through Cochrane, Kapuskasing and Hearst to Nakina;
- the Canadian Pacific Railway extends westward from North Bay to Sudbury. From Sudbury, lines extend west to Sault Ste. Marie and northwest to Chapleau and White River;
- the Ontario Northland system connects North Bay to Moosonee with spur lines into Timmins, Elk Lake and Rouyn, Quebec;
- The Algoma Central Railway runs north from Sault Ste. Marie to Hearst, interconnecting with the CPR at Franz, the southern line of the CNR at Oba and the northern CNR line at Hearst.

Major commercial airlines service the four regional centres of Sault Ste. Marie, Sudbury, North Bay and Timmins. Other commercial air services, such as Norontair and Austin Airways, also link the regional centres with some of the smaller communities such as Kapuskasing, Kirkland Lake, Earlton, Wawa, Moosonee, Chapleau and Elliot Lake. In addition, Austin Airways operates between the coastal communities on the Hudson and James Bay.

4. HYDRO-ELECTRIC POWER

A number of major hydro corridors and hydro generating dams are found within the Planning Region. The following list indicates all those river systems with hydro generating stations and the agency owning the structures:

Abitibi River	Ontario Hydro 2 dams Abitibi Paper Company 3 dams
Kapuskasing River	Spruce Falls Power and Paper Company 1 dam
Matabitchuan River	Ontario Hydro 1 dam

Social Setting

Mattagami River	Ontario Hydro 6 dams Spruce Falls Power and Paper Company 1 dam Abitibi Paper Company 1 dam
Mattawa River	Mattawa Electric Light and Power Company 1 dam
Michipicoten River	Great Lakes Power Corporation Limited 4 dams
Mississagi River	Ontario Hydro 4 dams
Montreal River (Algoma District)	Great Lakes Power Corporation Limited 4 dams
Montreal River (Timiskaming District)	Ontario Hydro 2 dams
Ottawa River	Ontario Hydro 1 dam
South River	Ontario Hydro 2 dams
St. Mary's River	Great Lakes Power Corporation Limited 1 dam
Sturgeon River	Ontario Hydro 1 dam Abitibi Paper Company 1 dam
Spanish River	Huronian Company 4 dams Eddy Forest Products 1 dam
Wanapitei River	Ontario Hydro 3 dams

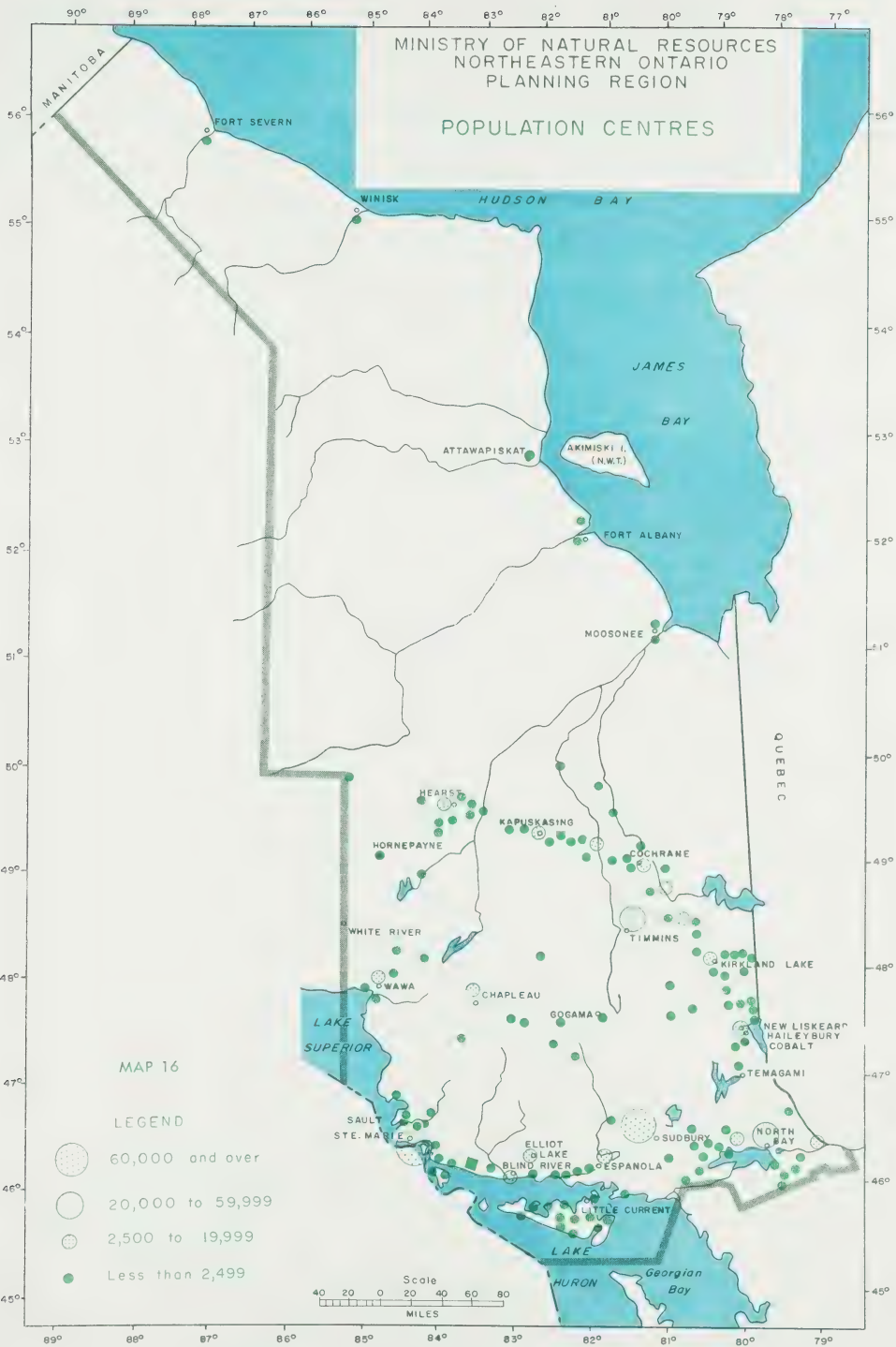
Major hydro transmission lines (115 Kv and larger) extend from the Abitibi and Mattagami Rivers south through Timmins and Sudbury to Southern Ontario. Other lines parallel Highway 11 and Highway 17 (Map 15).

5. POPULATION CENTRES

Most major centres are located along Highways 11 and 17 (Map 16). The notable exception to this pattern is Timmins which is located 56 kilometres (35 miles) west of the Highway 11 corridor. Many of these major centres are associated with mining and forest industries.

The four largest urban centres, Sault Ste. Marie, Sudbury, North Bay and





Timmins, each with a population greater than 40,000, serve as sub-regional centres.¹ The communities of Kapuskasing, Kirkland Lake, Moosonee and the Tri-Town (New Liskeard - Haileybury - Cobalt) are area service centres. The communities of Hearst, Cochrane, Iroquois Falls, Wawa, Chapleau, Blind River, Elliot Lake, Espanola, Little Current and Sturgeon Falls function as local service centres.

6. DEGREE OF DEVELOPMENT

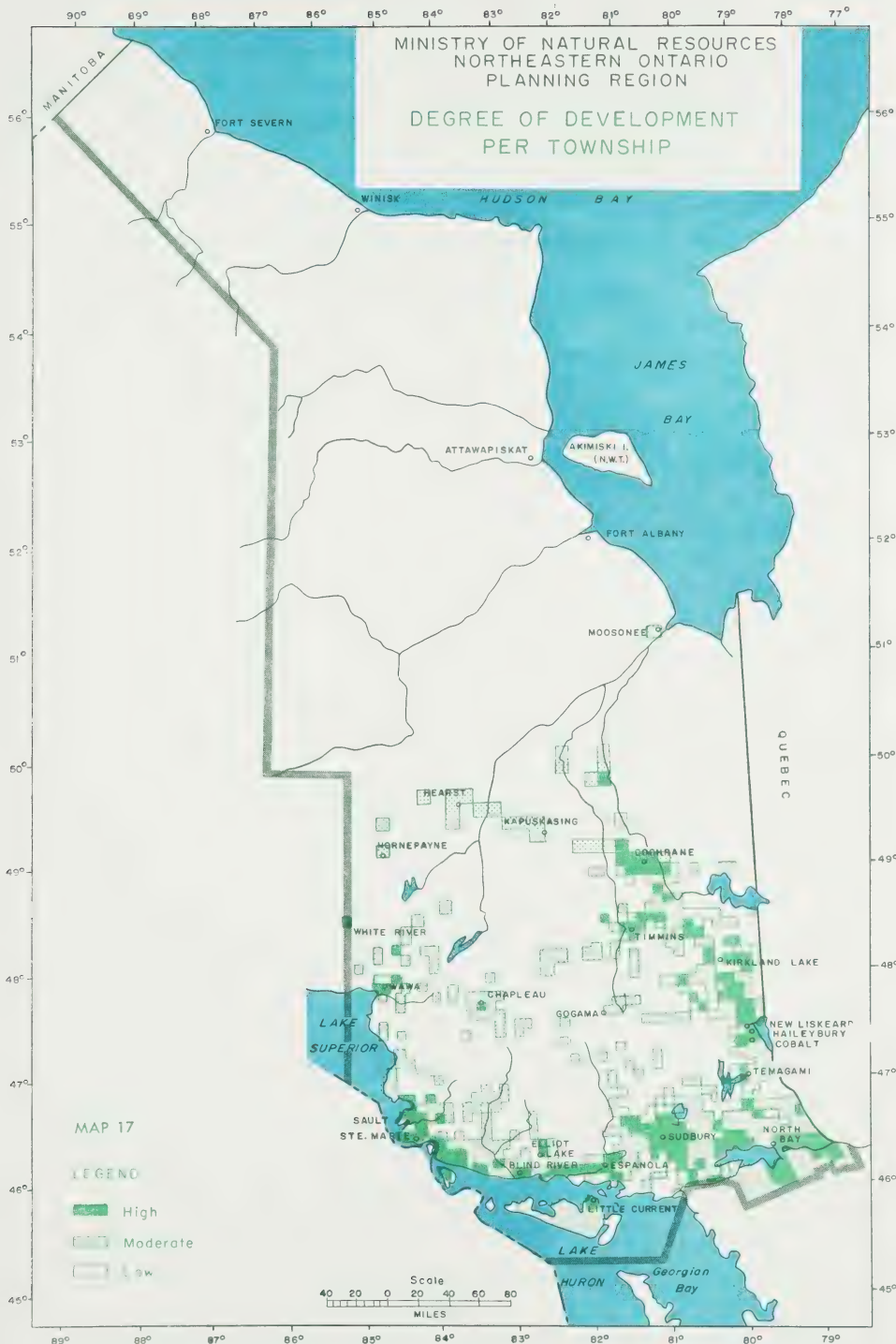
In an attempt to summarize the pattern of development in the Northeastern Planning Region, a scoring system has been applied to the various types of development as outlined in Table 4. A unit area can be classified for the degree of development by totalling the scores of all forms of development within it. The degree of development system measures only the physical infrastructure. No consideration is given to the quantity or value of the resources, natural or social, which exist in the area. By generalizing the degree of development into three classes, high, medium, and low, by township unit, an overview of the development pattern within the Planning Region can be obtained (Map 17). With few exceptions, townships with a high degree of development are found along the two major transportation corridors containing Highways 11 and 17. Townships having a medium degree of development tend to be located on or near secondary highways (Map 17). Approximately 11 percent of the Planning Region has a high degree of development compared to 60 percent of the Region with low or no development.

¹ For a discussion of the urban hierarchy see Ministry of Treasury, Economics and Intergovernmental Affairs, "Design for Development, Northeastern Ontario Regional Strategy, 1976".

TABLE 4

DEGREE OF DEVELOPMENT
DEVELOPMENT UNIT SCORING SYSTEM

		<u>Development Unit Score</u>
Seasonal Residences	per single family unit	1
Permanent Residence	per single family unit	2
Other Permanent Buildings or Developments - e.g. industries, stores, gas stations	per 5 employees	2
Roads	paved - per kilometre (mile)	3
	gravel, all weather (per kilometre (mile)	2
	seasonal - per kilometre (mile)	1
Railroads	per kilometre (mile)	2
Major Power Lines	per kilometre (mile)	1
Pipelines	per kilometre (mile)	1/2
Docks and Dam Structures	per 30 metres (100 lineal feet)	1
Campgrounds and Roadside Developments and Access points	per 2.02 hectares (5 acres developed)	1
Garbage Dumps	per hectare (acre)	2
Quarries, Pits, Slag Heaps	per hectare (acre)	1



7. POPULATION

A. INTRODUCTION

In 1971, the resident population of the Northeastern Planning Region was approximately 559,850 or 7.3 percent of the population of Ontario. The largest concentrations are found mainly adjacent to Highways 11 and 17.

With few exceptions, population densities away from these corridors decline rapidly (Map 16). In addition, numerous settlements of less than 1,000 people are scattered throughout the Planning Region, with several Indian communities located along the Hudson-James Bay coast.

Population densities by census districts vary. Sudbury and Nipissing census districts have average densities of approximately 11.2 people per km² (sq. mile). Cochrane census district is the lowest with 1.7 people per km² (sq. mile), approximately 20 times less than the provincial average (Table 5, and Map 18).

B. POPULATION CHANGE

Although the Northeastern Region enjoyed a relatively high period of growth between 1951 and 1961, even surpassing the provincial levels in the period 1956-1961, during the time from 1961 to 1971 the rate of growth was much slower and well under the provincial rate for the same period (Table 6).

The census divisions of Algoma, Nipissing and Sudbury have all continued to show population increases from 1951 to 1971. Manitoulin census division has experienced erratic periods of increase and decline in population. Timiskaming decreased in population during the

TABLE 5

1971 CENSUS DIVISION POPULATIONS - NORTHEASTERN REGION

<u>Census District</u>	<u>1971</u>	<u>Percent of Total Region</u>	<u>Density* (Population per km² (sq. mile))</u>
Algoma	121,937	21.8	6.2
Cochrane	95,814	17.0	1.7
Manitoulin	10,931	2.0	7.7
Nipissing	78,867	14.1	11.2
Sudbury	198,079	35.4	11.2
Timiskaming	46,507	8.3	7.9
Parry Sound* (North part)	7,714	1.4	7.9
Patricia	--	--	--
	<u>559,849</u>	<u>100.00</u>	

	<u>1971</u>	<u>Percent of Total Province</u>	
Northeastern Ontario	559,849	7.27	5.2
Ontario	7,703,106	100.00	21.7

Source: 1971 Census of Canada and

* Ministry of Treasury, Economics and
Intergovernmental Affairs; "Statistical
Appendix to the Northeastern Ontario
Regional Strategy" - Table 1.6.0.

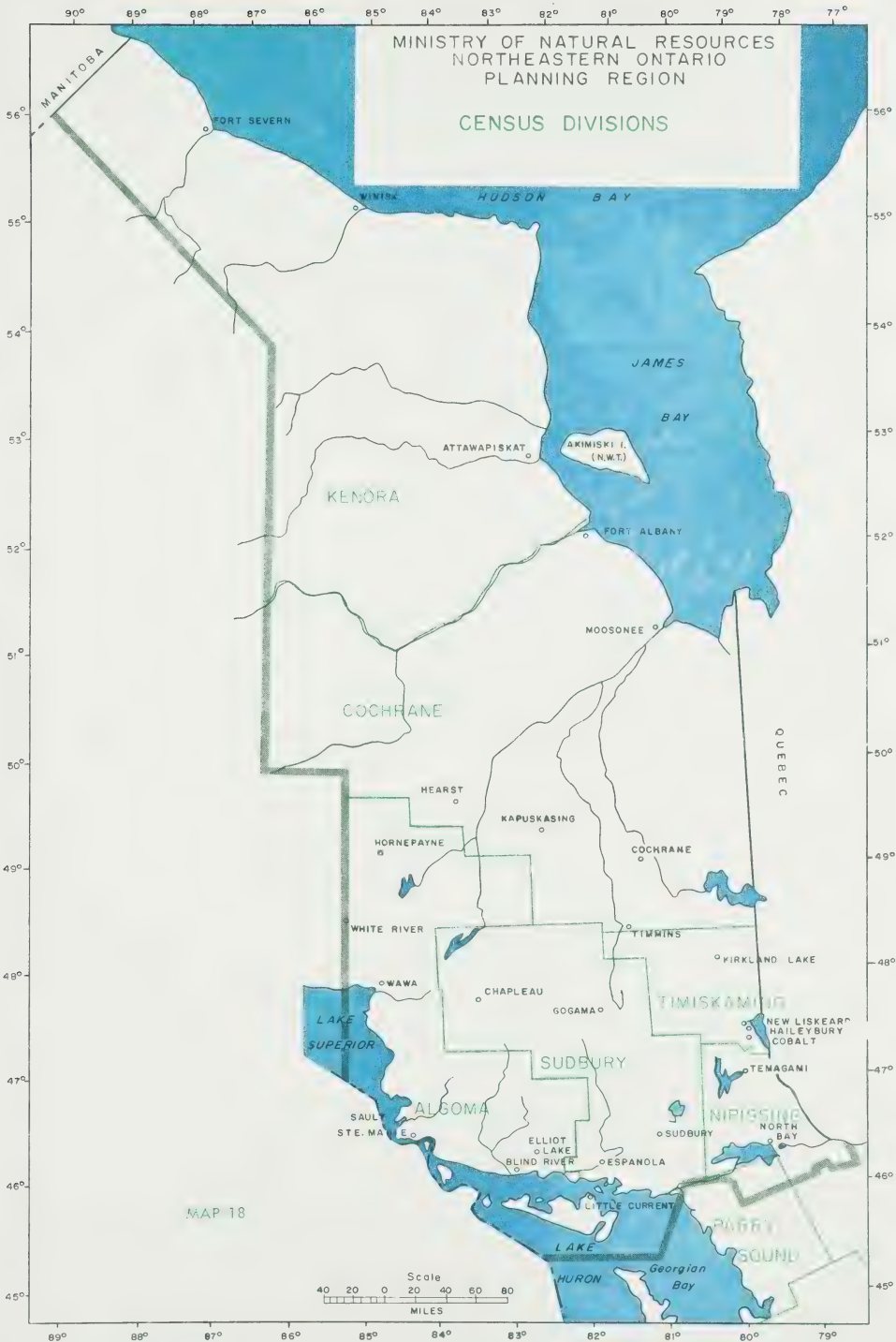


TABLE 6

POPULATION CHANGES BY CENSUS DIVISIONS - NORTHEASTERN PLANNING REGION

CENSUS DISTRICT	P O P U L A T I O N					PERCENT POPULATION CHANGE			
	1951	1956	1961	1966	1971	1951	1956	1961	1966
Algoma	64,496	82,059	111,408	113,561	121,937	27.2	35.8	1.9	7.4
Cochrane	83,850	86,768	95,666	97,334	95,836	3.4	10.3	1.7	-1.3
Manitoulin	11,214	11,060	11,176	10,554	10,931	-1.4	1.0	-5.7	3.7
Nipissing	50,517	60,452	70,568	73,867	78,867	19.7	16.7	4.2	7.3
Sudbury	109,590	141,975	165,862	174,102	198,079	29.6	16.8	5.0	13.8
Timiskaming	50,016	50,264	50,971	47,154	46,485	0.5	1.4	-7.5	-1.4
Parry Sound (part)	5,911	6,322	6,883	6,731	7,714	7.0	8.9	-2.2	14.6
Patricia	--	--	--	--	--	--	--	--	--
NORTHEASTERN REGION	375,594	438,900	512,534	522,959	559,849	16.9	16.8	2.0	7.1
Mean Annual Rate of Growth						3.2	3.2	0.4	1.4
PROVINCE	4,597,542	5,404,933	6,236,092	6,960,870	7,703,106	17.6	15.4	11.6	10.7
Mean Annual Rate of Growth						3.3	2.9	2.3	2.1

(Source: Census of Canada 1971)

period 1961 to 1971 and Cochrane census division showed a similar decrease in the period 1966 to 1971. In the period from 1966 to 1971, the most rapid rate of growth occurred in Sudbury and that portion of Parry Sound within the Planning Region, with an annual growth rate of 2.7 percent and 2.9 percent respectively. These rates were slightly higher than the provincial average for the same period (Tables 5 and 6).

C. NET MIGRATION

The slow rate of growth within the Planning Region correlates with the net migration figures for the period 1961 to 1971 (Table 7). During this time there was significant migration from all of the census divisions except for Sudbury. Cochrane had the largest out migration followed by Timiskaming and Algoma.

During the period 1966 to 1971, all census districts showed a general stabilization in migration rates, except for Cochrane and Timiskaming where out migration was higher than five percent. Sudbury had the highest positive rate of migration.

D. AGE GROUPING

All of the census divisions within the Northeastern Planning Region in 1971 had a higher percentage of people under 25 years of age than the provincial average (Table 8). In the age group 25-65 years, all census divisions were less than the provincial average. Only Manitoulin and Timiskaming had a higher percentage of people over 65 years of age than the provincial average. These age class differences tend to indicate an out migration of the over 25 years of age class.

TABLE 7

NET MIGRATION BY CENSUS DISTRICTS
NORTHEASTERN ONTARIO PLANNING REGION
1961 to 1971

	NET MIGRATION			
	<u>1971/1961</u>		<u>1971/1966</u>	
	<u>No.</u>	<u>%a</u>	<u>No.</u>	<u>%b</u>
Algoma	- 9,660	- 8.7	282	0.2
Cochrane	-15,964	-16.7	- 7,749	-8.0
Manitoulin	- 1,335	-11.9	24	0.2
Nipissing	- 3,147	- 4.5	1,313	1.8
Sudbury	357	0.2	10,567	6.1
Timiskaming	-10,004	-19.6	- 2,404	-5.1
Parry Sound ¹	- 1,834	- 6.2	1,271	4.5
TOTAL NORTHEASTERN ONTARIO PLANNING REGION	<u>-41,587</u>	<u>- 7.8</u>	<u>3,304</u>	<u>0.6</u>
TOTAL PROVINCE OF ONTARIO	606,090	9.7	369,164	5.3

¹ Includes all of Parry Sound District

Source: Ministry of Treasury, Economics and Intergovernmental Affairs,
 "Statistical Appendix to Northeastern Ontario Regional Strategy,
 1976, Table 1.70".

TABLE 8

AGE GROUPINGS BY CENSUS DIVISIONS
NORTHEASTERN PLANNING REGION

	<u>UNDER 25</u>		<u>BETWEEN 25-65</u>		<u>OVER 65</u>		<u>TOTAL</u>
	<u>NUMBER</u>	<u>%</u>	<u>NUMBER</u>	<u>%</u>	<u>NUMBER</u>	<u>%</u>	
Algoma	62,950	51.6	51,855	42.5	7,140	5.9	121,945
Cochrane	51,080	53.3	39,895	41.7	4,865	5.0	95,840
Manitoulin	5,430	49.8	4,160	38.1	1,320	12.1	10,910
Nipissing	40,930	51.9	32,520	41.2	5,420	6.9	78,870
Sudbury	107,560	54.3	82,195	41.5	8,320	4.2	198,075
Timiskaming	23,200	49.9	19,005	40.9	4,270	9.2	46,475
*Parry Sound	--	--	--	--	--	--	--
NORTHEASTERN REGION	291,150	52.7	229,630	41.6	31,335	5.7	552,115
PROVINCE	3,595,985	46.7	3,462,710	44.9	644,410	8.4	7,703,105

* Not available

Source: Census of Canada, 1971

E. URBANIZATION

Although the population tabulated for census divisions has shown moderate fluctuation, relatively high increases in population have occurred in the larger urban centres, particularly along Highway 17. In the report Design for Development, Northeastern Ontario Regional Strategy, four subregional centres have been defined, three of which are found along Highway 17¹. The population of these four subregional centres (Sault Ste. Marie, Sudbury, North Bay and Timmins) constitutes 54 percent of the total population within the Northeastern Planning Area (Table 9). The combined total of all the urban areas within the Planning Region, listed in the 1971 Census of Canada, comprises 74 percent of the total planning area population. The census divisions of Algoma, Nipissing and Sudbury had the highest urban populations with 84 percent, 75 percent and 74 percent respectively. The lowest level of urban population was Manitoulin with 14 percent and Timiskaming, with 67 percent urban population.

Most of the people living in Northeastern Ontario live within an organized municipality; however, only 64 percent of the people within the Manitoulin census division reside within an organized community (Table 10). The Manitoulin census division also has the largest number of people living on Indian Reserves; 3,100 persons or 28 percent of the total population. When considering the total Northeastern Planning Region, close to 55,110 people or 10 percent of the population live in unorganized areas and another 7,460 people live on Indian Reserves.

¹ Ministry of Treasury, Economics and Intergovernmental Affairs, "Design for Development, Northeastern Ontario Regional Strategy, 1976".

TABLE 9

MAJOR MUNICIPALITIES IN ORDER OF 1971 POPULATION SIZE
NORTHEASTERN PLANNING REGION

Sudbury	124,885	Black River-Matheson	4,050
Sault Ste. Marie	80,335	Smooth Rock Falls	3,890
North Bay	49,185	Hearst	3,500
Timmins	41,475	Blind River	3,450
Kirkland Lake	15,205	Chapleau	3,385
Tri-Town:	12,970	Mattawa	2,880
New Liskeard	5,490	Moose Factory	1,900
Haileybury	5,280	Thessalon	1,880
Cobalt	2,200	Hornepayne	1,825
Kapuskasing	12,835	Englehart	1,725
Elliot Lake	9,095	Little Current	1,565
Iroquois Falls	7,270	Temagami	1,425
Sturgeon Falls	6,660	Massey	1,280
Espanola	6,045	Moosonee	1,267
Cochrane	4,965		
Wawa	4,875		

Source: Canada Census, 1971

TABLE 10

1971 POPULATION BY CENSUS DIVISIONS
NORTHEASTERN PLANNING REGION

	ALGOMA	COCHRANE	MANITOULIN	NIPISSING	SUDEBURY	TIMISKAMING	NORTHEASTERN ONTARIO
Population of Organized areas & % of Census Divisions	110,165 90%	79,765 83%	7,040 64%	73,045 93%	178,115 90%	42,435 91%	490,565 88%
Population of Unorganized areas & % of Census Divisions	9,775 8.4%	14,330 15%	790 7%	5,530 7%	20,635 10%	4,050 9%	55,110 10%
Population of Indian Reserves & % of Census Division	2,000 1.6%	1,740 2%	3,100 28.4%	295 0.4%	325 0.2%	-- 0.0%	7,460 1.4%
1971 POPULATION	121,937	95,814	10,931	78,867	198,079	46,507	552,135
% of TOTAL	22%	17.4%	2%	14.3%	35.9%	8.4%	100%

All census divisions in the period 1961 to 1971 had increasing urban populations and decreasing farm populations. Manitoulin, Sudbury and Timiskaming had increasing rural non-farm populations; however, only in Manitoulin was this change particularly large.

F. ETHNIC BACKGROUND

The number of people with British ethnic background is greater than the total of all other ethnic types in Algoma, Manitoulin, Timiskaming and Nipissing census divisions. However, only in Manitoulin does the percentage of population having British ethnic background (63.4 percent) exceed the provincial average (59.4 percent). Cochrane has the lowest percentage of British descendants with 29 percent of the ethnic total. With the exception of Manitoulin, all census divisions show at least 17 percent of their population with French ethnic background. Cochrane, Nipissing and Sudbury have 52, 40 and 39 percent respectively in this group.

Native people comprise 27 percent of the population in Manitoulin. In all other census divisions, less than four percent are native people.

Italian descendants comprise 12 percent of the population in Algoma census division. Most of the Italian descendants live in Sault Ste. Marie. With the exception of Sudbury, all other census divisions have less than five percent with Italian heritage. In Sudbury census division, a large portion of Italian descendants live in the City of Sudbury and in the towns of Coniston and Copper Cliff.

Any other ethnic group accounts for few than five percent of the total for any census division.

G. MOTHER TONGUE

None of the census divisions in Northeastern Ontario exceed the provincial percentage of 77.5 for native English speaking population. In Algoma and Manitoulin, 74.5 and 76.3 percent respectively have English as their mother tongue. Only in Cochrane does the percentage of people with French mother tongue (49.1 percent) exceed that of people with English mother tongue (40.1 percent). Nipissing, Sudbury and Timiskaming census units all have at least 25 percent of their total with French mother tongue.

8. LABOUR FORCE

A. INTRODUCTION

In 1971, there were approximately 367,255 people over 15 years of age within the Planning Region. Of this total, approximately 209,575 or 57.1 percent could be considered as the available labour force (Table 11).

B. EMPLOYMENT

Approximately 193,110 people of the total available labour force (209,575) were employed, leaving approximately 16,480 people unemployed. This constitutes an unemployment rate of 7.9 percent which is one percent higher than the provincial average (Table 11).

The highest male and female unemployment rates, (9.4 and 11.6 percent) occurred in Cochrane census division, while Manitoulin had the lowest rate at 5.1 and 4.9 percent respectively (Table 11). In absolute numbers, the Sudbury census division had the highest population unemployed with 4,885 people not working.

TABLE 11

TOTAL LABOUR FORCE

CENSUS DIVISION	<u>TOTAL</u>		<u>EMPLOYED</u>		<u>UNEMPLOYED</u>		<u>UNEMPLOYED AS % OF LABOUR FORCE</u>	
	<u>MALE</u>	<u>FEMALE</u>	<u>MALE</u>	<u>FEMALE</u>	<u>MALE</u>	<u>FEMALE</u>	<u>MALE</u>	<u>FEMALE</u>
Ontario	2,178,000	1,232,825	2,046,365	1,130,535	131,640	102,285	6.0	8.2
Algoma	33,405	14,700	31,015	13,155	2,390	1,545	7.1	10.5
Cochrane	23,925	10,025	21,670	8,850	2,255	1,170	9.4	11.6
Manitoulin	2,440	1,275	2,315	1,210	125	60	5.1	4.9
Nipissing	19,290	9,745	17,765	8,760	1,525	985	7.9	10.1
Sudbury	55,905	22,035	53,200	19,865	2,710	2,175	4.8	9.8
Timiskaming	11,390	5,440	10,405	4,890	985	555	8.6	10.1
NORTHEASTERN REGION	146,355	63,220	136,370	56,730	9,990	6,490	6.8	10.3

Source: 1971 Census of Canada

C. LABOUR FORCE BY INDUSTRY

In 1970 the primary sector of industry accounted for 16.2 percent of the total labour force within the Region (Table 12). Mining and quarrying made up the largest proportion of the primary sector employment with 13.5 percent.

The secondary sector of industry provided employment for 22.9 percent of the labour force. Of this, manufacturing accounted for 16.0 percent or 33,065 jobs. Approximately 79 percent (26,420 jobs) of the total jobs in manufacturing were related to the manufacture of natural resource allied products.

Tertiary sector employment provided 51.4 percent of the total jobs within the Planning Region. Commercial business and personal services accounted for the largest number of jobs within Northeastern Ontario.

Employment related to natural resources (primary and secondary resource manufacturing) provided 29.1 percent (60,073 jobs) of the total number of jobs within the Planning Area.

Because of data collection limitations of the Census of Canada, another assessment of the number of employees by natural resource using industries has been attempted in this report. A summary of employment of these industries, based upon data available to the Ministry of Natural Resources, is presented below. A more detailed discussion for each industry is contained in Chapter V.

The basic industries of mining and mine-based activities, forest and

TABLE 12
LABOUR FORCE BY INDUSTRY DIVISIONS AND DISTRICTS - NORTHEASTERN ONTARIO PLANNING REGION - 1971

	P R I M A R Y					S E C O N D A R Y					T E R T I A R Y					INDUSTRY NOT STATED
	ALL INDUSTRIES	AGRICULTURE	FORESTRY	FISHING & TRAPPING	MINING & OIL	MANUFACTURING			CONSTRUCTION	TRANSPORTATION & COMMUNICATION UTILITIES	TRADE	FINANCE & INSURANCE REAL ESTATE	COMMUNITY, BUSINESS & PERSONAL SERVICES INDUSTRIES	PUBLIC ADMINIS- TRATION & DEFENCE		
						WHEAT INDUSTRY	PAPER & INDUSTRY	OTHER								
Algoma	46,989	440	620	40	2,805	9,595	1,710	1,390	2,700	6,135	1,045	10,450	3,000		3,300	
Cochrane	32,835	275	1,290	10	3,915	145	4,735	625	2,120	4,150	630	7,010	2,760		2,670	
Manitoulin	3,660	515	50	15	90	15	50	75	330	520	70	910	315		390	
Nipissing	28,325	460	310	10	630	215	1,505	1,620	1,860	3,130	4,095	685	7,045		2,930	
Subsidiary	76,480	475	330	5	18,020	6,120	1,610	2,325	5,935	9,215	1,085	14,820	3,620		7,405	
Timiskaming	16,390	675	260	10	2,370	275	445	610	1,195	2,260	350	3,700	1,255		1,340	
TOTAL - NORTHEASTERN ONTARIO PLANNING REGION	204,670 100.0	2,860 1.3	2,910 1.4	90 0.04	27,813 13.5	16,895 7.9	10,055 4.9	6,645 3.2	14,130 6.9	26,375 12.8	4,665 2.2	43,935 21.4	14,705 7.2		18,035 8.8	
TOTAL - PROVINCE OF ONTARIO	3,154,360 100.0	179,905 5.7	8,475 0.3	1,425 0.04	40,545 1.2	70,910 2.1	82,670 2.6	665,555 20.8	205,785 6.5	497,560 14.8	155,510 4.6	787,255 23.5	247,455 7.4		239,095 7.2	

Notes: Due to random rounding by Statistics Canada, figures may not add to totals.

* - less than 0.05 percent.

Source: Statistics Canada, Census of Canada "Labour Force", Special Tabulation 1971.

forest-based activities and tourism provide significant sources of employment throughout the Region. Of these, mining and mining related activities provide a major employment base in Sault Ste. Marie, Sudbury, and Timmins (three of the four regional centres within the Planning Region). Mines also provide a major employment base in communities such as Virginiatown, Kirkland Lake, Elliot Lake, Wawa, Temagami, Cobalt and Matheson. In Northeastern Ontario, slightly more than 44,000 persons are directly employed in the operation of mines, mills, smelters, refineries, and mining related manufacturing.

The forest products industry is the prominent employer in such communities as Kapuskasing, Iroquois Falls, Espanola, Sault Ste. Marie, Sturgeon Falls, Smooth Rock Falls, Hearst, Dubreuilville and Cochrane. It is estimated that during 1973, 14,500 jobs were directly associated with the forest industry.

The agricultural sector contributes to the employment base in the following areas: Cochrane, Matheson, New Liskeard, Blind River, Thessalon, Little Current, Sault Ste. Marie, Sudbury and Timmins. The farm population which derived direct income from agriculture was 15,500 people in 1971. Of this total, approximately 1,090 people gave their occupation as farmer in the 1971 Census of Canada. A further 2,320 indicated they were employed in farming related activities.

The other primary resource activities of commercial fishing and trapping in 1971 provided employment for over 2,300 people throughout the Planning Region. Many of these jobs, however, are of a seasonal or part-time nature. The Northeastern Planning Region has had a

traditional reliance on the primary industries as the main source of employment. Most secondary industries within the Planning Region tend to be closely associated with and, in many cases, dependent upon the primary industries of mining and forestry. The transportation and construction industries tend to expand and decline in direct relation to the state of the mining and forest industries. The majority of the secondary industries are located in the four largest centres of the Planning Region.

During the last ten years, the tertiary sector has increased its importance in the economic base of the Planning Region. Expansion of government programs has contributed to the increases in the public services, while the increased urbanization and growth of the large centres has resulted in an overall growth in the service industries. Tourism has been a third factor in the expansion of employment in the tertiary sector.

The reliance of Northeastern Ontario on primary industry can mean that its economy is particularly susceptible to world fluctuations in the demand for certain resource products, and in the case of mining, to depletion of the resource. A general lack of secondary industry can limit the job choice within the Planning Region. Employment opportunities are predominantly oriented to labouring and blue collar jobs, with a deficiency of technical and professional forms of employment.

D. AVERAGE ANNUAL EMPLOYMENT INCOME

With the exception of Sudbury, all census divisions within Northeastern Ontario had a smaller average employment income for both men

and women than the provincial average. Sudbury's male average employment income exceeded the provincial average by \$400.00 (Table 13).

The urban average income in all census divisions exceeds the rural non-farm and farm incomes. The Sudbury male urban average employment income was the only one that exceeded the provincial average (Table 13).

Manitoulin census division showed a lower average employment income for males in all categories than all other census divisions within the Northeastern Planning Region. The Timiskaming census division was the lowest in all categories for female employment income.

A comparison of average labour force income for the four largest municipalities (Sudbury, Sault Ste. Marie, Timmins and North Bay) indicates that Sudbury has the highest, Sault Ste. Marie the second highest and North Bay and Timmins the third and fourth highest average male and female employment incomes (Table 14).

9. POPULATION PROJECTIONS

Population growth within the Planning Area will be largely dependent upon expansion in the fields of mining, forestry and tourism. The primary industries such as mining, forestry and trapping are directly reliant on world markets. Consideration must be given to this critical factor. Success in regional planning will depend upon some stability in the world markets and will involve the ability of government to forecast world economic trends and take necessary action within the Region.

The Economic Analysis Branch of the Ministry of Treasury, Economics and

TABLE 13

1970 EMPLOYMENT INCOME BY SEX AND CENSUS DIVISION

CENSUS DIVISION	M A L E			F E M A L E		
	PERSONS EMPLOYED 1970	TOTAL EMPLOYMENT INCOME	AVERAGE INCOME	PERSONS EMPLOYED 1970	TOTAL EMPLOYMENT INCOME	AVERAGE INCOME
ONTARIO	2,270,505	\$2,251,115	\$7,529	1,404,430	\$1,327,610	\$3,328
ALGOMA	34,835	34,590	7,200	16,840	16,020	3,034
Urban	29,335	29,205	7,421	14,650	14,140	3,090
Rural	5,495	5,390	5,999	2,190	1,880	2,612
Non-Farm	4,930	4,885	6,151	1,940	1,735	2,616
Farm	560	500	4,523	250	150	2,561
COCHRANE	25,835	25,635	6,565	11,310	10,610	2,953
Urban	19,680	19,565	6,739	9,165	8,675	3,010
Rural	6,150	6,075	6,005	2,145	1,935	2,694
Non-Farm	5,740	5,680	6,111	1,975	1,820	2,721
Farm	410	390	4,465	170	115	2,281
MANITOULIN	2,680	2,605	4,295	1,445	1,225	2,911
Urban	420	420	5,377	320	305	3,193
Rural	2,265	2,185	4,088	1,125	915	2,816
Non-Farm	1,625	1,590	4,543	835	705	2,699
Farm	640	600	2,881	290	215	3,203
NIPISSING	20,460	20,255	6,677	11,005	10,145	3,141
Urban	15,405	15,300	7,098	8,985	8,480	3,219
Rural	5,060	4,950	5,375	2,020	1,665	2,741
Non-Farm	4,380	4,330	5,500	1,765	1,505	2,740
Farm	675	615	4,493	255	160	2,745
SUDBURY	58,675	58,415	7,941	25,740	24,230	3,087
Urban	44,555	44,395	8,130	20,950	19,995	3,184
Rural	14,115	14,020	7,343	4,785	4,235	2,628
Non-Farm	13,470	13,405	7,421	4,550	4,125	2,647
Farm	650	615	5,645	235	115	1,947
TIMISKAMING	12,255	12,145	5,835	6,245	5,710	2,760
Urban	8,290	8,265	6,179	4,765	4,540	2,881
Rural	3,960	3,880	5,101	1,480	1,170	2,288
Non-Farm	2,960	2,935	5,475	1,045	950	2,212
Farm	1,000	945	3,940	440	220	2,619

Source: 1971 Census of Canada

TABLE 14

1970 EMPLOYMENT INCOME BY SEX AND CENSUS MUNICIPALITY¹

Census Municipality	M A L E		F E M A L E	
	Persons Employed 1970	\$ Average ²	Persons Employed 1970	\$ Average ²
Sudbury	30,120	8,163	15,215	3,300
Sault Ste. Marie	23,460	7,492	11,920	3,126
North Bay	13,070	7,244	7,760	3,254
Timmins	9,035	6,438	4,260	2,945
Toronto	726,860	7,900	497,575	3,696

¹ Municipality - refers to the urban area only and does not include the urban fringe area

² Dollar Average - considers only those persons with income

(Source: 1971 Census of Canada)

and Intergovernmental Affairs (T.E.I.G.A.) has made population projections based on the 1971 census, assuming medium fertility rates, 50,000 net migration and internal migration at 0.27 percent of the total Ontario population. Given these assumptions, the Northeastern Region would contain, by the year 2001, approximately 780,000 people (1.4 times the 1971 census total) and Sudbury would have almost twice the number of people as the Algoma census division (Table 15).

The provincial government believes that it is feasible and realistic to expect by the year 2001 a population of approximately 860,000 within Northeastern Ontario¹. This population goal would be achieved largely through government's ability to encourage and influence development of the Region. This population goal would represent an increase of 260,000 over the 1975 population of 600,000.

¹ Design for Development, Northeastern Ontario, A Proposed Planning and Development Strategy, Ministry of Treasury, Economics and Intergovernmental Affairs, 1976.

TABLE 15

POPULATION PROJECTIONS¹ BY CENSUS DIVISIONS

NORTHEASTERN PLANNING REGION

Census District	Projected Populations			% Change 1971 to 2001
	1971	1981	2001	
Algoma	121,937	140,709	180,465	+47.9
Cochrane	95,836	96,267	93,177	- 2.8
Manitoulin	10,931	11,244	12,467	+14.1
Nipissing	78,867	87,485	105,016	+33.1
Sudbury	198,079	245,410	345,500	+74.4
Timiskaming	46,485	46,122	42,764	- 8.1
*Parry Sound (part)	7,741	--	--	--
*Northeastern Region	559,849	627,237	779,389	+39.2

* Projections are not available for that portion of Parry Sound Census District within the Northeastern Region.

¹ Source: Economic Analysis Branch, Ministry of Treasury, Economics and International Governmental Affairs, August 7, 1974.

CHAPTER IV

NATURAL RESOURCE EVALUATION

The Region's ability to attract and sustain further development will be largely dependent upon the natural resource potential discussed in this Chapter.

1. MINERAL POTENTIAL

Northeastern Ontario contains more than half of the known metallic mineral occurrences in the province and is considered to have an abundance of mineral resources in greater proportion than perhaps any comparable part of the world.

Based on the distribution of known mineral occurrences and other geological parameters, the Planning Region can be divided into areas of high, moderate and low potential for the discovery of significant mineral deposits. Although many areas have been classed as low mineral potential, upon further investigation some of these areas may be reclassified as having higher mineral potential. It is also difficult to classify, with any degree of certainty, the mineral potential of areas covered by deep overburden, such as the central and northern portions of the Planning Region.

In general, areas underlain by Early Precambrian "greenstone belts", Middle Precambrian sedimentary and mafic intrusive rocks, Late Precambrian carbonatite - alkalic complexes and the Cretaceous sediments of the Hudson Bay Lowlands possess a high mineral potential. Palaeozoic rocks in the Region are of moderate to low potential, while areas

underlain by granitic rocks have the least mineral potential (Maps 5 and 19).

Northeastern Ontario has many areas of favourable geologic environments for minerals. The mafic intrusive rocks of the Cobalt and Sudbury areas hold high potential for discovery of significant deposits of copper, nickel, platinum-group metals, silver and cobalt. The Abitibi greenstone belt of Northeast Ontario - Northwest Quebec is one of the world's most prolific producers of base and precious metals, as well as of significant amounts of iron, cadmium and asbestos. Such mining communities as Timmins, Virginiatown, Kirkland Lake and Matachewan are located within the Abitibi greenstone belt. Other greenstone areas with high potential for mineral occurrences found within the Planning Region are illustrated on Map 5.

The Proterozoic belt, north of Lake Huron in the Elliot Lake and Agnew Lake areas, contains 80 percent of Canadian uranium reserves and about 17 percent of the world's uranium reserves, and thus constitutes a unique and strategic resource on both an international and provincial level. Other areas within the Proterozoic belt which have potential would be the Whitefish Falls-Killarney areas for silica production.

Areas considered to have high mineral potential for niobium (columbium), iron, phosphates and radioactive elements, are the small carbonatite-alkalic complexes located along a southwest-northeast axis from Chapleau to Moosonee.

Geological evidence also suggests that as-yet-undiscovered diamond deposits may occur in Northeastern Ontario (Moose River Basin).



The Palaeozoic rocks of Manitoulin Island, and adjacent islands, have moderate potential for limestone and dolomite production. The large area of Palaeozoic sedimentary rocks in the Hudson Bay Lowlands are rated as having a moderately low potential for oil and gas. The area underlain by Mesozoic sedimentary rocks has a high potential for the production of lignite, high grade gypsum, fireclay and silica.

2. AGGREGATE POTENTIAL

Sand and gravel, as a resource, is becoming increasingly more important within the Planning Region and within the province.

In Northeastern Ontario aggregate deposits are associated with water-worked glacial landforms. The principal glacial features which may provide aggregate are eskers, kames, outwash and proglacial lake beach deposits.

In the southern part of the Planning Region, aggregate deposits are generally more plentiful near the coastal areas. Proglacial lake beach deposits associated with glacial lakes Algonquin, Nipissing and Minong are particularly important.

Deep outwash deposits, such as those associated with the Magpie, Michipicoten and Mississagi Rivers, are also important southern aggregate sources. Kame and ablation moraine deposits are locally significant. The kame deposits northeast of Sudbury are especially significant local aggregate resources.

Further north, significant outwash deposits occur south of Cobalt, east and west of Kirkland Lake, and south and east of Timmins. In addition,

individual esker ridges such as those west of Smooth Rock Falls and west of Cochrane are strategically important as potential supplies of high quality sands and gravels. Although heights may vary, the esker sand, gravel and boulder deposits may obtain a thickness of 45 metres (150 feet). In some areas unbroken esker deposits can be traced for over 96 km (60 miles).

The Hudson and James Bay Lowlands have a series of raised beaches located adjacent and parallel to the coastal area. These beaches may be a potential source of aggregate material.

Some areas within the Planning Region lack potential sources of aggregate. The Great Clay Belt between Hearst and Cochrane, where lacustrine clay deposits average 8 metres (60 feet) in depth, is relatively devoid (in terms of both the quantity and quality) of potential aggregate supply areas. Also devoid of potential aggregate supplies are the extensive bedrock uplands south of the Arctic drainage divide.

Crushing of bedrock for aggregate becomes more feasible as distance to surficial glacial deposits increases. The rocks of Manitoulin Island are particularly important potential sources of stone for aggregate.

3. TIMBER

A. TIMBER LAND USE CAPABILITY (ONTARIO LAND INVENTORY)

The Planning Region has been broadly classified for timber production capability according to the Ontario Land Inventory. This information is useful for long term planning purposes since it evaluates land regardless of its present tree cover and species. The inventory classifies land into seven capability classes; however, to

illustrate the timber capability in this report, a generalization of the inventory has been made as follows:

- | | |
|---|---|
| - High Forest Capability
(Classes 1, 2 & 3) | - Mean annual increment greater
than 70 cubic feet/acre/year |
| - Moderate Forest Capability
(Classes 4 & 5) | - Mean annual increment 31 to 70
cubic feet/acre/year |
| - Low Forest Capability
(Classes 6 & 7) | - Mean annual increment 1 to 30
cubic feet/acre/year |

There are only a few land areas with high forest capability. They are:

- a) Elk Lake-Tri-Town areas within the Little Clay Belt;
- b) the Bonfield-Rutherglen areas east of North Bay;
- c) Verner-Hagar areas west of Sturgeon Falls;
- d) the Chelmsford area north of Sudbury;
- e) localized pockets on Manitoulin Island;
- f) Desbarats-Poplar Dale areas east of Sault Ste. Marie.

South of the 50⁰ North parallel, the land ranges between moderate and low capability on a provincial scale for timber production when measured in terms of the mean annual increment (Map 20).

The moderate capability areas are characterized by the deep soiled areas such as esker ridges, the end moraines, the outwash deposits and the better drained loam and clay plains.

The Hudson-James Bay Lowlands, north of the 50th parallel, produce sparse black spruce and larch stands which give way to scattered stands of stunted trees and to treeless barrens along the coastal belt. This area was not covered by the Ontario Land Inventory since

the timber capability is very low.

For more detailed planning of existing forest areas another type of inventory is used.

B. THE FOREST RESOURCES INVENTORY

The Planning Region can broadly be divided into four parts, each with its own capability for producing particular species.

The southern-most area extends back from the shores of Superior and Huron and through the Nipissing area. It contains some of the roughest topography in Ontario. It has numerous bedrock outcroppings, cliffs, and generally thin soils. In individual pockets it produces excellent yellow birch, maple and pine. This area reaches up to the height of land sand plains and rolling hills which characterize the Wawa-Chapleau-Gogama-Swastika areas. Very good jack pine and some spruce is grown here. The rolling hills gradually taper down to the clay flatlands of the Hearst-Cochrane areas where spruce is the main species with some jack pine. North of this area is the Hudson Bay Lowlands which produces good spruce along the river banks but little forest cover in between rivers.

Throughout all these areas there are large areas of white birch and poplar. These species are less utilized than most other species.

There are many acres incapable of growing the next forest crop in a reasonable time because of shallow soil or excessive wetness. There are, on the other hand, some very productive sites. The forest manager must learn where these sites are and how to deal with them. The

lack of recognition to date of the poorer sites has given a false impression of the forest's capability to reproduce. All sites are covered with trees but the regeneration program has followed harvesting and fire areas indiscriminately. It is only now being recognized that in the future there will be fewer acres upon which we can grow good trees.

The Forest Resources Inventory (F.R.I.) identifies forest stand types and establishes the site class and the potential yield for the species now on the site. Four site classes are recognized as production forest and a summation for the Planning Region has been made to calculate the potential production from the existing forests of the Planning Region.

C. PRODUCTIVE AREA

Table 16 illustrates the net productive forest land which exists in each of the Ministry of Natural Resources Administrative Regions. The latest calculations indicate that there are approximately 13,045,445 hectares (32,236,000 acres) of Crown land and 1,900,403 hectares (4,696,000 acres) of patented land classed as productive forest land in the Northeastern Planning Region. Of this productive forest land, 9,567,576 hectares (23,642,000 acres) of Crown land and 1,173,183 hectares (2,899,000 acres) of private land have been identified as available production forest.

D. ANNUAL ALLOWABLE CUT

Allowable cut is the amount of forest produce that can be cut annually or periodically under sustained yield management. The basis for calculation of the allowable cut is the growing stock and current annual increment.

TABLE 16

FOREST LAND BASE

	<u>HECTARES / (ACRES)</u>		
	<u>CROWN</u>	<u>PATENTED</u>	<u>TOTAL</u>
<u>NORTHERN ADMINISTRATIVE REGION:</u>			
Productive Forest Land	9,098,951 (22,484,000)	897,997 (2,219,000)	9,996,948 (24,703,000)
Available Production Forest	6,569,666 (16,234,000)	627,667 (1,551,000)	7,197,333 (17,785,000)
<u>NORTHEASTERN ADMINISTRATIVE REGION:</u>			
Productive Forest Land	3,946,493 (9,752,000)	1,002,406 (2,477,000)	4,948,900 (12,229,000)
Available Production Forest	2,997,910 (7,408,000)	545,516 (1,348,000)	3,543,427 (8,756,000)
<u>TOTAL NORTHEASTERN PLANNING REGION¹:</u>			
Productive Forest Land	13,045,445 (32,236,000)	1,900,403 (4,696,000)	14,945,848 (36,932,000)
Available Production Forest	9,567,576 (23,642,000)	1,173,183 (2,899,000)	10,740,760 (26,541,000)

NOTE: Productive Forest Land: Land bearing, or capable of bearing, timber of merchantable character and not withdrawn from such use.

Available Production Forest: An area of productive forest land dedicated to the growing of merchantable timber or the production of other forest produce (deductions have been made for protection forest (site class 4), some site class 3 lands considered too poor for timber production, provincial parks, approved and existing park reserves and wildlife areas).

Source: 1976 Regional Forest Production Records.

¹The total Forest Land Base figures for the Northeastern Planning Region are approximate, since a small portion of the Northeastern Administrative Region lies outside of the Planning Region and a small portion of the North Central Region lies within it.

The annual allowable cut from Crown land within the Northeastern Planning Region for all the species combined is 4,600,000 cunits.

(1 cunit = 100 cubic feet = 2.83 cubic metres.)

4. AGRICULTURAL CAPABILITY

The Canada Land Inventory has developed two systems to rate the capability of land for field and forage crops; one for mineral soils and the other for organic soils. Soils are categorized into seven capability classes with class one considered as the most productive and class seven the least productive. Limitations are assessed and according to their severity, the capability and range for growing certain crops can be determined. In much of Northeastern Ontario, climate imposes moderate to very severe limitations of agriculture. Slopes, soil depth shallowness, poor drainage and soil infertibility impose varying limitations.

In the Northeastern Planning Region, less than eleven percent of the total land base inventoried is class 3 agricultural capability or better. There are no class 1 agricultural lands. Acreages for high, moderate and low capability lands are presented on Table 17.

Within the Northeastern Planning Region, high capability lands for agriculture (class 2 and 3) are associated with deep soils of clay and loam plains (Maps 21 and 6). These lands are found in the following areas:

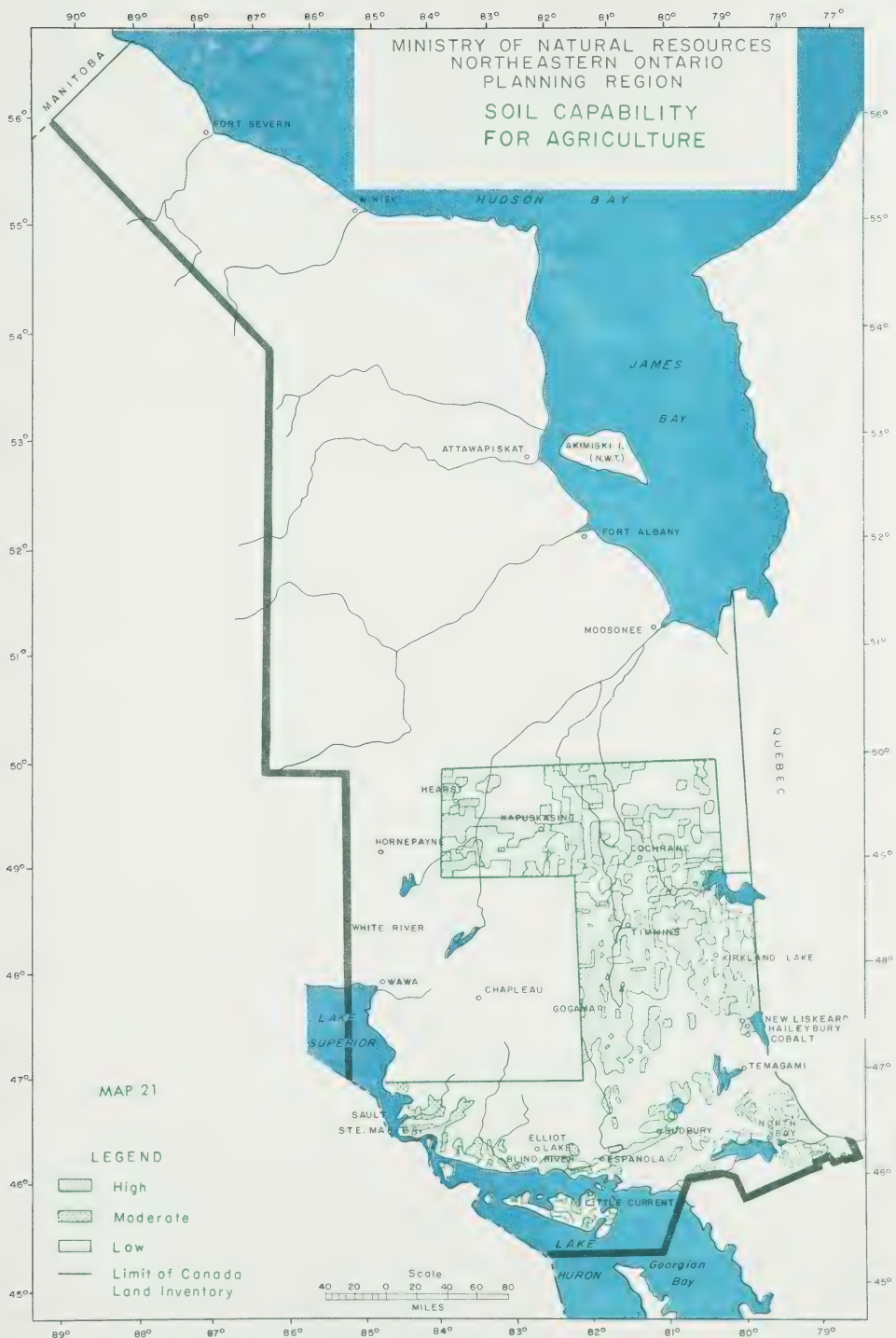
- a) west of Kapuskasing and south of Hearst;
- b) immediately north of Cochrane;
- c) the Matheson - Iroquois Falls area;
- d) the Little Clay Belt, north of New Liskeard;
- e) Manitoulin Island;

TABLE 17
ESTIMATED
HECTARES/(ACREAGES) OF
SOIL CAPABILITY CLASSES FOR AGRICULTURE
IN NORTHEASTERN PLANNING REGION*

	MILLION HECTARES (ACRES)		PERCENT
Class 1	0	(0)	0
Class 2 and 3 (High)	1.10	(2.72)	11.4
Class 4 and 5 (Moderate)	2.55	(6.29)	26.4
Class 6 and 7 (Low)	4.65	(11.49)	48.3
Organic	<u>1.34</u>	<u>(3.32)</u>	<u>13.9</u>
	<u>9.64</u>	<u>(23.82)</u>	<u>100.0</u>

* For those areas covered by C.L.I. Program.

Source: Ontario Ministry of Agriculture and Food, 1975,
and Ontario Ministry of Natural Resources.



- f) the St. Joseph Island and Echo Bay areas;
- g) along Highway 17 between Thessalon and Espanola;
- h) the Verner and Sturgeon Falls area;
- i) Chelmsford and Burwash areas;
- j) Sault Ste. Marie and Goulais River areas.

Climate becomes increasingly more restrictive to agriculture in the northern areas of the Planning Region. There are nearly 90 frost-free days in the Cochrane-Kapuskasing area while the Sault Ste. Marie-Sudbury-North Bay area has over 110 days without frost.

5. RECREATION CAPABILITY

A. INTRODUCTION

The Canada Land Inventory has evaluated land and water in most of Northeastern Ontario for its ability to attract and sustain intensive recreational use. The Inventory ranks lands on a one to seven scale. Class one lands are able to attract and sustain high intensity recreational uses while class seven lands have very low capability for high intensity recreational use. For each land unit evaluated, the Inventory has also selected uses which would provide the highest number of user days per year for the area. The uses range from the most intensive recreational uses to the least intensive and are assigned according to the land's ability to sustain and attract that activity.

Since a land area may have the capability of attracting and sustaining high quality extensive (dispersed) recreational activities, as well as intensive (high density) recreational activities, a separate assessment has been made for extensive recreational use by the Ontario Land Inventory (Section 5.C.).

B. RECREATION CAPABILITY - INTENSIVE USE

Land capability for various levels of intensive recreational uses has been defined by the Canada Land Inventory. In this report, broad land areas having conspicuous concentrations of moderately high (class 3) to very high (class 1) recreation capabilities have been identified by the Ontario Land Inventory to indicate the highest intensive use areas within the Planning Region (Map 22).

Twenty-two areas have been defined as intensive use areas. Two of these areas are considered to be outstanding because of the variety of high ranking features. Their location, and the respective intensive activities, are described below:

a) Areas of Outstanding Recreation Capability Due to the Broad Variety of High Ranking Features:

The following areas have outstanding intensive recreation capability due to a broad variety of high ranking features (Map 22). These include opportunities for bathing, cottaging, camping, boating, canoeing, angling, hunting, skiing and viewing.

1. Lake Nipissing and surrounding area
2. East shore of Lake Superior

b) Areas of High Recreation Capability but Lacking a Sufficient Variety of Features:

The following areas possess high intensive recreation features, but lack the variety of features present in the outstanding areas described above (Map 22).

3. Manitoulin Island
4. Cockburn Island



5. Blind River-St. Joseph Island area
6. Killarney-Baie Fine area
7. Wawa-Michipicoten
8. Dog Lake-Manitowik Lake
9. Kabinakagami and Cameron Lakes
10. Nagagami and Nagagamisis Lakes
11. Fushimi and Pivabiska Lakes
12. Remi Lake
13. Pierre and Little Abitibi Lakes
14. Kirkland Lake and Larder Lake area
15. Gowganda
16. Watabeag Lake-Radisson Lake area
17. Lake Timiskaming-Wabi Bay area
18. Temagami
19. Wanapitei
20. Onaping Lake area
21. Windy-Fairbank and Vermillion Lakes
22. Como Lake and Racine Lake

C. RECREATION CAPABILITY - EXTENSIVE USE

Extensive recreation uses are those activities which are normally considered to be dispersed and thus involving low density use. An example would be hiking, canoeing and remote cottaging. Many lands may offer high quality year-round extensive recreation opportunities. Some of these lands, because of their susceptibility to damage, are unable to provide intensive use. Lands capable for intensive use are usually also capable for extensive use.

Map 23 indicates the relative importance of land areas within North-

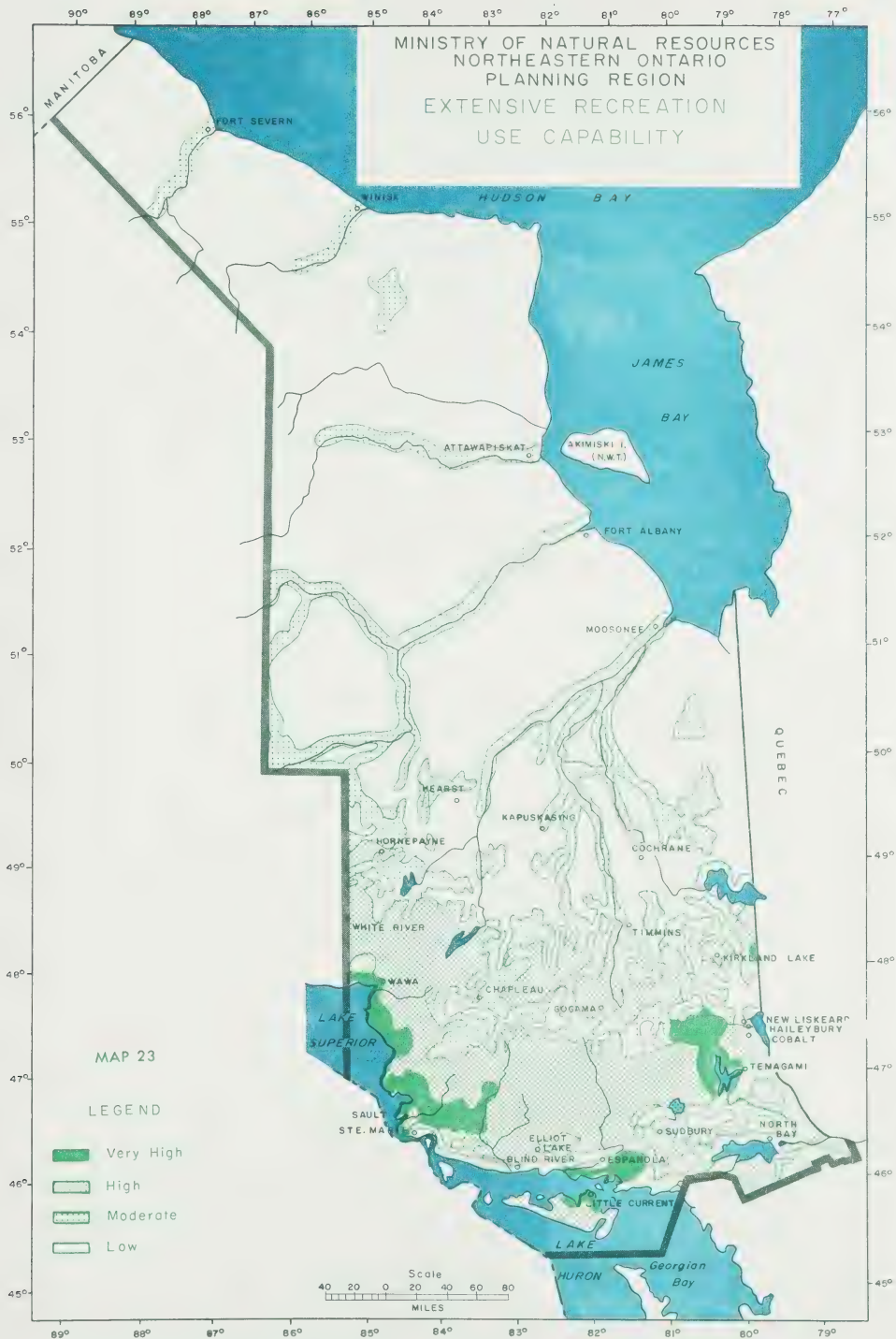
eastern Ontario for extensive year-round recreation. Generally, extensive recreation capability is a product of topography, water pattern and forest cover. Land areas with broken topography, significant water patterns, and mixed wood species receive the highest capability for extensive recreation. Areas of flat topography and without significant water patterns are rated lowest. Four major areas within the Planning Region are rated as having very high capability for extensive use recreation: Temagami-Lady Evelyn-Smoothwater areas; the La Cloche and escarpment uplands of Killarney and Manitoulin Island respectively; the shore of Lake Superior; and the Goulais-Garden River-Mississagi uplands in the Sault Ste. Marie area. All of these areas are considered of provincial significance. The canoeing waters of the Temagami-Lady Evelyn Lake area are equal to the best of Quetico and Algonquin Park. The Killarney area offers canoeing and hiking opportunities that are not found anywhere else in the province. The boating waters of the North Channel are reputed to be among the best in the world. The Superior shoreland and the Algoma uplands, including Agawa Canyon, allow for a variety of extensive recreation uses, including nature viewing, hiking, cross-country skiing, photography and painting.

The balance of the Region shows extensive year-round recreation capabilities ranging from high to low. Low extensive recreation capability occurs in the northern part of the Region where the topography is flatter and the water bodies less attractive.

6. FISHERIES CAPABILITY

A. INLAND WATERS

The Fisheries Branch of the Ministry has estimated that there are



approximately 2.7 million hectares (6.7 million acres) of water surface in inland water bodies within the Northeastern Planning Region. Preliminary calculations suggest that the potential annual sustained yield for these water bodies would be approximately 5.2 million kilograms (11.5 million pounds) of fish for all species.

Drainage basins vary in productivity because of the influence of the geology, soil and climate, as well as the presence and degree of human activity within the drainage area. Productivity has been estimated for each drainage basin within the Planning Region. The productivity is given in terms of the annual weight increment of fish populations available on a long term sustainable basis. This is illustrated in Map 24.

Specific aquatic systems within the Planning Region range in estimated annual productivity between less than 1 to slightly greater than 3 kilograms per surface hectare (less than 1 to slightly greater than 6 pounds per surface acre). Generally, the southern part of the Planning Region, where the Canadian Shield is most evident and the soil overburden is least, has the lowest productivity values (.9 kilograms per surface hectare or less (2 pounds per surface acre or less)). Inland lakes on Manitoulin Island, because of the presence of Palaeozoic rocks and warmer climate, are more productive. Here, the estimated productivity for lakes is 3.2 kilograms of fish per hectare (7.0 pounds per acre), exceeding the estimated productivity for all other areas in the Planning Region. For the remainder of the Planning Region, central portions generally have the highest productivity values with estimated productivity levels between .9 and 3 kilograms per surface hectare (2 and 7 pounds per acre) (Map 24).

There are a high number (747) of lake trout lakes within the Planning Region. These lakes account for 3,337.46 km² (1,288.6 sq. miles) of surface water or approximately 12 percent of the Planning Region's total inland water area. The majority of the lakes are located in those drainage basins having low productivity and which are found in the southern third of the Region.

Lake trout waters are generally recognized as the least fertile and most fragile aquatic systems to maintain. Ontario has an estimated 2,000 lakes of this nature in the province, approximately one-sixth of the world's supply. Approximately one-third of Ontario's supply is believed to occur within the Planning Region (Table 18).

Inland lakes are sensitive to stresses imposed upon their ecosystems. Since all the lakes in the Northeastern Planning Region have relatively low productivity, these lakes can be considered as particularly sensitive.

Only limited surveys have been carried out on the waters of the Hudson Bay Lowlands. Generally, it can be assumed that the capability of these aquatic ecosystems will be severely limited by climate, impeded drainage and organic soil cover. An exception to this is the Hawley-Sutton Lakes area and several major rivers which have important sport fish populations.

B. GREAT LAKES WATERS

Extensive long-range fisheries assessment is being conducted on both Lake Superior and Lake Huron by the Ministry. These studies have provided preliminary calculations which estimate sustained yields of all

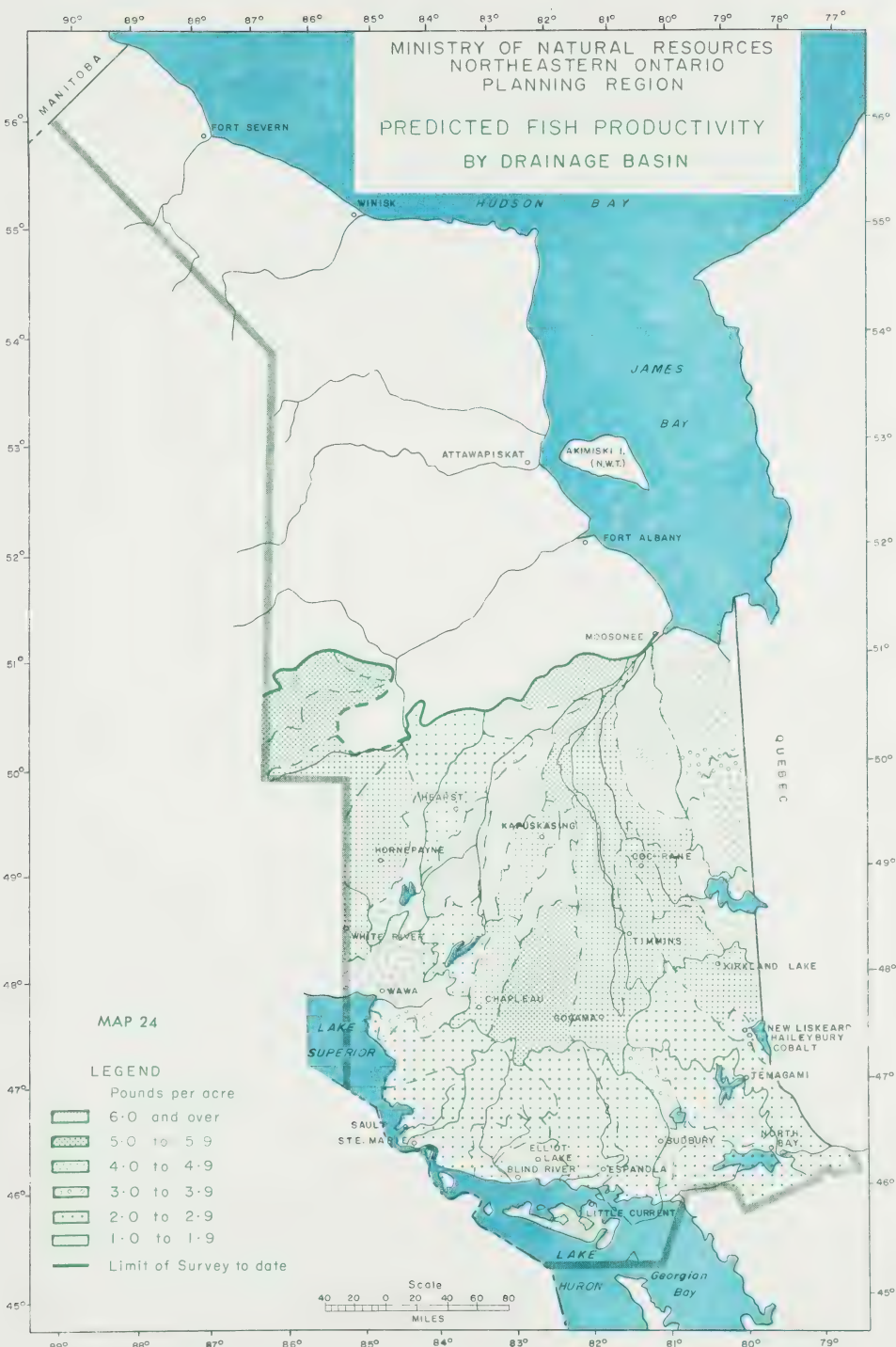


TABLE 18
DISTRIBUTION OF DESIGNATED LAKE TROUT WATERS
NORTHEASTERN PLANNING REGION

NORTHERN ADMINISTRATIVE REGION:

DISTRICT	NO. OF LAKES	ESTIMATED AREA OF LAKES	
		SQ. KILOMETRES	(SQ. MILES)
Hearst	0	0.0	0.0
Kapuskasing	1	.26	0.1
Moosonee	4	46.88	18.1
Cochrane	9	7.51	2.9
Timmins	9	17.87	6.9
Kirkland Lake	19	93.50	36.1
Chapleau	31	255.37	98.6
Gogama	31	26.94	10.4
TOTAL NORTHERN ADMINISTRATIVE REGION	104	448.33	173.1

NORTHEASTERN ADMINISTRATIVE REGION:

North Bay	48	226.88	87.6
Wawa	51	300.44	116.0
Sault Ste. Marie	80	176.90	68.3
Sudbury	80	694.63	268.2
Espanola	92	303.55	117.2
Temagami	96	381.76	147.4
Blind River	196	804.97	310.8
TOTAL NORTHEASTERN ADMINISTRATIVE REGION	643	2,889.13	1,115.5
TOTAL NORTHEASTERN PLANNING REGION	747	3,337.46	1,288.6

Source: The Distribution and Characteristics of Lake Trout
Lakes, The Ministry of Natural Resources, 1976.

species for those portions of Lake Superior and Lake Huron within the Northeastern Planning Region to be roughly 997,903 kg (2,200,000 lbs.) and 2,248,004 kg (4,956,000 lbs.) annually respectively.

7. WILDLIFE CAPABILITY

The Ontario Land Inventory's system for rating the capability of land to produce wildlife assumes that wildlife production depends upon the ability of land to produce food and cover and that, in turn, is dependent upon soil and water characteristics (e.g. soil structure and drainage, and soil and water fertility). The land capability for wildlife production is defined within these assumptions as the wildlife production which could be achieved if an area of land were managed to produce the most suitable habitat it can produce for the specific species considered. Within the Planning Region, the Ontario Land Inventory has assigned capability ratings to land for the production of white-tailed deer, moose, ruffed grouse and water fowl, as well as ability of the land to attract migrant geese.

A. WHITE-TAILED DEER

Although the range for deer once extended as far north as Kirkland Lake, Timmins and Chapleau, the majority of deer are generally restricted to the southern portion of the Northeastern Planning Region. The capability of land to produce white-tailed deer within this area is limited by winter habitat conditions and the deterioration of the overall range through forest maturation and fire control.

B. MOOSE

Land capability ratings for moose in the Northeastern Planning Region vary locally from low to high. Surveys indicate average densities

range from .10 moose per km^2 (.03 per sq. mile) to 1.5 moose per km^2 (.58 per sq. mile) in certain few areas of winter concentration.

Severe hunting has effectively lowered moose population below what the range is capable of supporting. Also contributing to the decline of moose in the Northeastern Planning Region are the extensive clear-cutting activities of the forest industry which have resulted in poor habitat. In some cases, timber harvesting, fires, blowdowns and budworm outbreaks all alter the capability of the land to support moose.

Moose are the most important big game species in this Region. A large number of hunters come to this area each fall and thus support an extensive tourist industry.

C. WOODLAND CARIBOU

The Ontario Land Inventory has not rated lands within the Northeastern Planning Region for the capability to produce woodland caribou. It would appear from research undertaken elsewhere that lands with mature conifer forest and having abundant ground and tree lichens are preferred caribou habitat.

Woodland caribou populations are found in small herds throughout the Hudson-James Bay Lowlands. During the winter, caribou herds seek shelter in the more dense timbered areas such as those in the Missisa Lake area, while in the summer, many areas along the Hudson Bay coast are frequented by caribou. Cape Henrietta Maria, the Niskibi River mouth and the Pen Islands are known as summer caribou ranges.

D. BLACK AND POLAR BEAR

No capability ratings are available for either the black or polar bear. Information on the capability of land to produce and sustain black bear populations will become available from research projects undertaken by the Ministry.

E. SMALL GAME

Within the Planning Region, the Ontario Land Inventory has rated land for the production of ruffed grouse. Land which has good capability to produce trembling aspen, birch and alder with some wetland conifers is considered ideal. Habitat requirements are brush with dispersed open areas.

Spruce grouse, sharp-tailed grouse, snowshoe hare and ptarmigan are considered locally important small game. Capability ratings for these species are not available at present.

F. WATERFOWL

The Ontario Land Inventory has rated existing wetlands for production of waterfowl. Important breeding ducks of the Northeastern Planning Region include mallard, black duck, ring-necked duck, wigeon, blue-winged teal, common goldeneye and common merganser. Other species which breed predominately in the northern parts of this Region include pintail, lesser scaup, green-winged teal and scoters.

Areas which are considered to have moderately high capability for duck production include the wetlands of Lake Nipissing, George Lake, the mouth of the Mississagi River, the Grassy River area and Lake Abitibi.

The ability of land to attract migrant geese has also been evaluated by the Inventory. Examples of land areas having higher capabilities to attract migrant geese are George Lake, Lake Nipissing and Lake Timiskaming.

The Hudson-James Bay Lowlands are considered to be particularly important for waterfowl. The coastal area of the Lowlands is an internationally important habitat for Canada geese, Snow geese and other waterfowl. During autumn and spring, the coastal areas are the major staging areas and migration routes for waterfowl originating not only in the Lowlands but from many arctic breeding areas.

G. FURBEARERS

Important furbearing species within the Northeastern Planning Region are beaver, fox, lynx, marten, otter, muskrat, fisher, timber wolf and minx. Beaver is by far the most important species in terms of commercial trapping.

No suitable capability ratings presently exist for these species.

8. SENSITIVE AREAS

Sensitive areas are places that contain features of conspicuous value, whose preservation is the main theme of management. In most cases, the sensitive features cannot be duplicated elsewhere due to the particular combination of factors involved in creating them. Thus, these biological, geological, historical and cultural features and their associated lands have qualifications that require special consideration in any plans that are prepared.

Sensitive area features are located throughout Northeastern Ontario and as such are difficult to group together in zones to display concentrations. Many features lend themselves to mapping, others do not. Twenty-five sensitive area zones have been defined for this report and are shown on Map 25. The reader is cautioned that these zones are not all inclusive.

General descriptions of the 25 zones are as follows:

1) Coalescing Lakes Area

This area contains the best example of coalescing lakes in the province. The physical process causing the lakes to coalesce is little understood.

2) Sutton-Hawley Ridges

The Sutton-Hawley Ridges are a predominant landform in the Hudson Bay Lowlands. The area is important botanically and geologically. The Sutton Gorge has been designated under the Wilderness Areas Act. The lake and river systems of the area contain brook trout populations.

3) Hudson-James Bay Coastal Area

This coastal area is a very significant staging and breeding ground for waterfowl and shore birds, as well as an important habitat for large mammals such as polar bear and woodland caribou. Various watersheds contain important brook trout populations. The beach ridges are considered important habitat of many mammals, including polar bear and especially caribou. Larger estuarial areas, such as the Winisk and Severn, are important feeding areas for white whales.



4) Cape Henrietta Maria

Cape Henrietta Maria is a subcomponent of the Hudson-James Bay coastal area. The zone contains some arctic tundra flora and fauna. It also encompasses an area containing relatively high populations of mammals, waterfowl and shore birds, as well as important brook trout fisheries. The area is continentally significant for waterfowl staging and Snow geese nesting. The area is located within Polar Bear Provincial Park.

5) Polar Bear Denning Areas

This sensitive area has significant geological and biological interests. The inland beach ridges are considered to be an important habitat of many mammals, including polar bear and caribou.

6) Albany River

The Albany River is important historically as a major fur trading route. Archaeological sites have been identified and are considered as being particularly sensitive to development.

7) Nagagamisis Uplands

The Nagagamisis Uplands is an area having a variety of attributes that are considered especially fragile to intensive development. The area is of particular interest for its recreational attractiveness. The surficial geology of this upland area is also considered to be significant.

8) Missinaibi-Michipicoten River

The Missinaibi-Michipicoten Rivers are provincially significant for their historical and archaeological resources. Archaeological and

historical sites are particularly sensitive to development. Important fragile yellow pickerel, salmon (pink, coho, chinook), trout (rainbow, brown lake) spawning areas have also been identified within the corridor. Scenic waterfalls are also found within the area. The majority of this area has been designated as a park reserve.

9) Missinaibi Lake

The Missinaibi Lake sensitive zone is a subcomponent of the Missinaibi-Michipicoten River zone. The area is particularly significant for its archaeological, biological and historical values. Three areas have been designated under the Wilderness Areas Act within the zone. The area also includes a small introduced elk herd as well as unique botanical communities in association with fur trading posts and Indian pictographs.

10) Pierre-Montreuil Lake Area

Part of the Pierre-Montreuil Lake area is a fragile sand and esker complex. It is important for its recreational and biological attractiveness. The area has been designated as a park reserve.

11) Lake Abitibi-Abitibi River

This sensitive zone encompasses important historical and biological sites. Abitibi Narrows is a particularly important historical site and has been designated under the Wilderness Areas Act. Wetland areas associated with the lake are important waterfowl production areas.

12) Lake Superior

The Lake Superior offshore lake trout spawning areas, as well as migratory salmonid routes, are especially critical. Archaeological, botanical and geological sensitive features are also considered important. This complex sensitive zone in addition has very high recreation attractiveness because of the variety of shoreline conditions, the numerous waterfalls and excellent viewing opportunities. The eastern portion of the zone contains the scenic Agawa Canyon and Agawa River. The Canyon is a provincially significant landform. A large portion of this area lies within Lake Superior Provincial Park.

13) Michipicoten Island

Michipicoten Island is an important sensitive area because of archaeological, historical, geological and biological values. Of particular interest are the endemic lake trout population, the agate beaches, and relic arctic floral communities.

14) Grassy River Area

The Grassy River area is an important waterfowl staging area. The area provides recreational opportunities such as hunting, fishing and canoeing. It is an important headwater area of several rivers including the Grassy and the Mattagami.

15) Matachewan-Gowganda-Shining Tree Area

This sensitive zone, which is the headwater area for the Montreal River, has important recreational values associated with it. The zone contains hunting, fishing and canoeing opportunities that could be lost through various uncomplimentary forms of development.

16) Biscotasing Area

The Biscotasing sensitive zone contains the headwaters of the Aux Sables, Mississagi, Spanish and Wakanossin River systems. Important historical, archaeological, wildlife and recreation values are associated with the zone.

17) Smooth Water-Lady Evelyn-Maple Mountain Complex

This sensitive area zone encompasses the headwaters of the Lady Evelyn and Montreal River systems. The zone contains fragile oligotrophic lake trout lakes, brook trout waters and pickerel spawning areas. The complex also is important for its archaeological and geological features. Ishpatina Ridge within the zone has the highest elevation of 686 metres (2,250 feet) in Ontario.

18) St. Joseph Island-Lake George Area

This sensitive area zone contains fish and wildlife and historical concerns. The wetland areas within the zone provide habitat and staging areas for puddle and diving ducks as well as shorebirds. Deer wintering areas and important pickerel spawning areas have also been identified here.

19) North Channel and Georgian Bay Shoreline Complex

This broad zone along the North Channel of Lake Huron encompasses extremely critical sensitive features. Nine winter deer yards have been identified within the zone, as have numerous nesting sites and fish spawning areas. The zone is important for its archaeological and historical sites. Because of the shallow soils associated with much of the zone, development impact is particularly critical. The area has a very high recreational attractiveness.

20) Spanish-Mississagi River Mouths Area

This zone is a smaller component of the North Channel-Georgian Bay shoreline complex. The area has been identified separately because of its high concentration of historical, archaeological, fish and wildlife sensitive features. The mouths of the Spanish and Mississagi Rivers have sites from the logging and fur trade era. Archaeological surveys have identified Indian settlements. Wetlands within the zone provide habitats for waterfowl and shore birds as well as providing migratory waterfowl stopover sites. Several critical pickerel and whitefish spawning areas have also been identified.

21) Killarney-Great La Cloche Area

This area is also a component of the North Channel and Georgian Bay shoreland zone. Within this zone are important deer yards as well as an elk range. Many archaeological and historically significant sites are known within the zone. The area has geological features that are also considered as being unique. The component zone is also an extremely important area because of the recreational attractiveness of islands and shorelands and small craft boating opportunities. A portion of this area is found within Killarney Provincial Park.

22) French-Mattawa River Area

This zone extends from the Georgian Bay sensitive zone easterly to the Ottawa River. The unit encompasses important fish and wildlife and historically and archaeologically sensitive features. Of particular significance are the deer yards in the Mattawa area, the pike, maskinonge, bass and pickerel spawning areas and the wetland waterfowl areas. A section of the Mattawa River is a Provincial Wild River Park.

23) Lake Nipissing

This zone is a component of the French-Mattawa complex. Sensitive features in the Lake Nipissing zone include pike, land-locked salmon, maskinonge and pickerel spawning areas, wetland habitats, nesting sites and historical sites.

24) Loring Deer Yard

The Loring Deer Yard is the largest deer yard in Ontario. The maintenance of this yarding area is essential to the deer population in the Parry Sound area.

25) Manitoulin-Cockburn Island Complex

The Manitoulin Island zone encompasses a variety of sensitive features. Included are two major deer yards, migratory salmonid routes, nesting areas for osprey, eagles, herons, important botanical communities, geological features and significant historical and archaeological sites.

9. HAZARD LANDS

Hazard lands are lands which possess physical characteristics which, if developed upon, could cause severe property damage or loss of life. Since development upon lands having hazardous conditions can result in substantial costs to the province, local community and property owner, the Ministry of Natural Resources encourages the definition of hazard lands within all official plans and large development proposals.

The Planning Act, administered by the Ministry of Housing, provides the initial legal basis for hazard land mapping and supporting policies. This basis is defined in Sections 2(7), 14(1) and 33(4). In the context

of official plans, the Act calls for consideration of safety of residents, drainage and land uses. In the context of subdivisions, the Act stresses again the requirement to consider the safety of future inhabitants, the suitability of land for subdivision and the conservation of natural resources and flood control.

The conservation Authorities Act administered by the Ministry of Natural Resources provides additional legal authority for identifying certain hazard lands and establishing regulatory policies for land uses associated with them. Section 27(1) makes provision for Conservation Authorities to pass regulations which may prohibit or regulate the construction of any building or structure in or on a pond or swamp or in any area susceptible to flooding during a regional design storm.

Because of potential problems and costs associated with developments on hazard lands, it is provincial policy that municipalities incorporate appropriate mapping and supporting policies in planning programs. Hazard land policies and mapping should define areas subject to flooding, erosion, soil instability as well as mining land hazards.

Although hazard lands must be considered as constraints to development at the regional level of planning, they can best be defined at the local plan level. Primary in concern are lands susceptible to flooding along river courses or shorelines. Especially critical because of intensive development are the hazard lands which have been defined by the flood plain mapping programs conducted by the Mattagami Region, Nickel District, North Bay-Mattawa and Sault Ste. Marie Region Conservation Authorities.

CHAPTER V

NATURAL RESOURCE DEVELOPMENT AND USE

The magnitude and location of present development in Northeastern Ontario is largely a function of the resource base. Future natural resource development will be a function of resource availability which, in turn, will be determined by the rate at which present supplies are demanded and consumed, and the rate at which new supplies are identified. This will be true for both renewable and non-renewable industrial and recreational resources.

In spite of the large area involved in the Planning Region, use conflicts are expected since natural resources are not randomly distributed and since the natural ability of Northeastern Ontario to produce renewable resources is constrained largely due to climate and soil limitations.

1. MINING INDUSTRY

For more than a century, the mining industry has been the major basis for economic growth in Northeastern Ontario. It is probable that mining will continue to be the primary basis for economic growth of the Region.

A. EMPLOYMENT

Ontario's largest primary industry is mining, employing directly and indirectly nearly 13 percent of the province's total labour force. In Northeastern Ontario, slightly more than 44,000 persons are employed in the operation of mines, mills, smelters, refineries and mining related manufacturing¹. This accounts for 21.4 percent of the Region's

¹Statistics Canada, Census of Canada, Labour Force, Special Tabulation, 1971.

labour force. The mineral industry supports the major communities of the Region and contributes to the support of small communities through purchases of goods and services (Table 19).

B. PRODUCTION

In 1973, the Planning Region produced metals, industrial minerals and structural materials, as listed below:

- a) Metals: (including metal concentrates)
cadmium, cobalt, copper, gold, iron, lead, nickel, platinum-group metals, selenium, silver, tellurium, tin, uranium, yttrium, zinc
- b) Industrial Minerals:
asbestos, barite, limestone, silica, sulphur
- c) Structural Materials:
building stone, sand, gravel

In the recent past, the Region also produced clay, thorium and arsenic.

In addition to those commodities currently produced, the Planning Region (exclusive of the Hudson Bay Lowlands) contains deposits of niobium (columbium), phosphate, magnesite, talc and kyanite. In the Hudson Bay Lowlands, deposits of lignite, gypsum, silica, kaolin and niobium may be developed for production in the future.

The Lowlands also have some potential for production of oil and natural gas. Geological evidence suggests that as-yet-undiscovered diamond deposits may occur in sections of the Hudson-James Bay Lowlands.

TABLE 19
PRODUCING MINES IN 1976

<u>MINING COMPANIES</u>	<u>LOCATION</u>	<u>PRODUCTION</u>	<u>EMPLOYMENT</u>
Agnico Eagle Mines Limited	Cobalt	Silver	66
Algoma Steel Corporation Limited	Wawa	Iron	741
Denison Mines Limited	Elliot Lake	Uranium, Yttrium	1,076
Dome Mines Limited	South Porcupine	Gold, Silver	537
Dominion Foundries and Steel Ltd.	Kirkland Lake	Iron	415
Dominion Foundries and Steel Ltd.	Temagami	Iron	494
Erana Mines Limited	North Bay area	Building Stone	Not available
Falconbridge Nickel Mines Limited	Falconbridge	Nickel and Copper	3,969
Farr's Quarry	Haileybury	Limestone	Not available
Hedman Mines Limited	Matheson	Asbestos	25
International Nickel Company Ltd.	Copper Cliff, Levack	Nickel, Copper	17,938
Indusmin Limited	Killarney	Silica	86
Kerr Addison Mines Limited	Virginiatown	Gold, Silver	482
National Steel Corp. of Canada Ltd.	Capreol	Iron	248
Pamour Porcupine Mines Limited	South Porcupine	Gold, Silver, Copper	757
Pamour Porcupine Mines Limited	Holtzre	Gold, Silver	88
Rio Algom Mines Limited	Elliot Lake	Uranium	1,003
Teck Corp. Limited (Silverfields)	Cobalt	Silver	66
Texas Gulf Canada Limited	Timmins	Lead, Zinc, Copper, Silver	2,096
Tribag Mining Company Limited	Batchawana Bay	Copper	117
United Asbestos Inc.	Midlothian Township	Asbestos	86
Willroy Mines (Macassa) Limited	Kirkland Lake	Gold, Silver	280
		TOTAL	32,436

Source: Geological Branch 1976

By far the biggest mineral-producing area in the Region is Sudbury, where, in addition to the important commodities of nickel and copper, significant amounts of gold, silver, platinum-group metals, iron, cobalt, selenium, tellurium and sulphuric acid are produced.

The Timmins area produces cadmium, copper, gold, lead, nickel, silver, tin and zinc. Iron ore, gold and silver are produced in the Kirkland Lake-Virginia town area; iron ore is mined near Temagami; uranium and yttrium are produced at Elliot Lake; silver and lead are mined near Sault Ste. Marie; and iron ore is mined at Wawa (Map 26).

Barite and asbestos are mined near Matachewan; limestone near Haileybury; building stone near North Bay; silica at Whitefish Falls and Badgeley Island in Lake Huron; while sand and gravel are produced from many sources for local use.

C. CONTRIBUTION TO THE ECONOMY

In 1972, the value of mineral production within Northeastern Ontario was \$1,090,390,802 (Table 20)¹. The total value of Ontario's mineral production was \$1,534,754,060 in 1972, thus Northeastern Ontario accounted for 71 percent of the provincial total. It should be noted that the considerable sum derived from the production of 3,822,876 kg (8,428,000 lbs.) of uranium, together with minor amounts of thorium and yttrium, is not included in the totals since this information is classed as confidential by Statistics Canada. Some idea of the minimum value of uranium production can be gained by noting that in 1972,

¹Mineral Information Bulletin, August 1974, pg.3. Published by Mineral Resources Branch, Ontario Division of Mines, Ministry of Natural Resources.

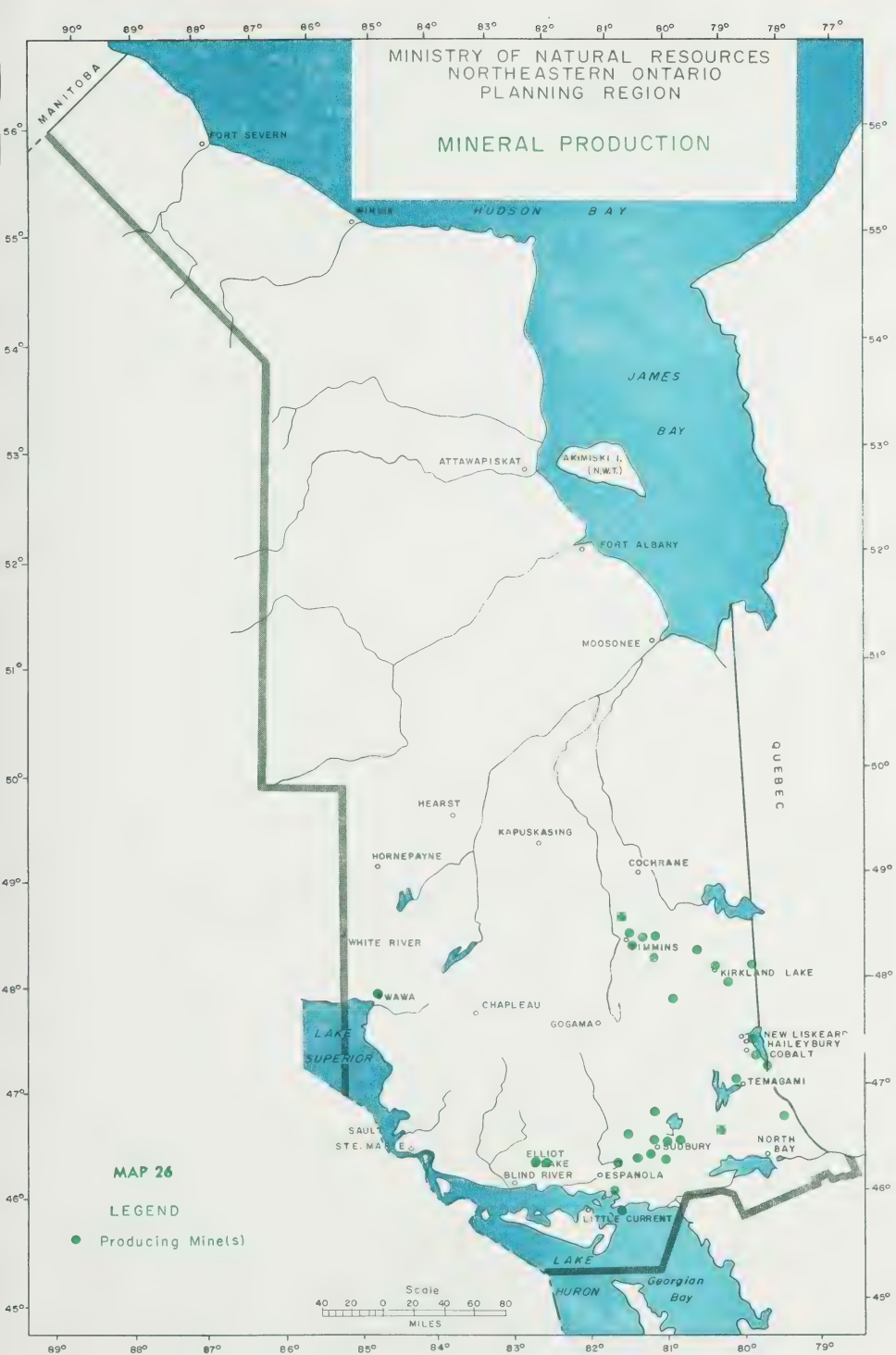


TABLE 20

VALUE OF ORE MINED IN NORTHEASTERN REGION (1972)

<u>COMMODITY</u>	<u>TOTAL DOLLAR VALUE OF OUTPUT¹</u>
Gold and Silver	\$ 41,078,232
Nickel, Copper, Lead, Zinc, Iron	989,436,609
Platinum-Group Metals	34,330,972
Cadmium, Selenium, Tellurium	7,534,162
Industrial Minerals	11,663,760
Structural Materials	6,347,067
Uranium, Thorium, Yttrium	data not available
TOTAL	<u><u>\$ 1,090,390,802</u></u>

¹Data from Ministry of Natural Resources and Statistics Canada based on the mineral content of the ore and the market price of that mineral.

the price of uranium was about \$6.00 per kilogram (pound) for deliveries in the early 1970's and has subsequently risen. Recent published data (1974) suggest that the current price is in the range of \$10.00 to \$15.00 per kilogram (pound).

Ore produced in the Planning Region is processed to various stages of refinement. Pure base metal products are produced at plants in Timmins and Sudbury. Pig iron and steel are refined in Sault Ste. Marie. Mint grade gold bullion is shipped to the National Mint in Ottawa from the gold mines in the Timmins and Kirkland Lake areas. Most other ores are concentrated and shipped to refining facilities outside the Region.

Ontario produces approximately 21 percent of Canada's total value of mineral production, inclusive of fossil fuels, and 35 percent of the total, when such fuels are excluded. As noted earlier, Northeastern Ontario accounts for about 70 percent of Ontario's total value of mineral production. This is an important contribution towards maintaining Canada's position as the world's leading mineral producer on a value-per-capita basis, with only the U.S.A. and the U.S.S.R. producing more in dollar value.

A good deal of the Region's mineral production is traded in international markets where it is a significant component of certain markets. Ontario's production of nickel, virtually all of which comes from the Sudbury area, accounts for some 70 percent of Canadian production and 43 percent of free world production. Canada is the free world's second largest producer of uranium, with Northeastern Ontario producing 16 percent of the free world total. The Region produces

about one-third of the free world's platinum-group metals.

Ontario's share of free world production of certain other metals is listed below:

- Cadmium	- 6 percent	- Silver	- 8 percent
- Copper	- 5 percent	- Zinc	- 9 percent
- Gold	- 3 percent		

While accurate data concerning the share produced in Northeastern Ontario is not readily available, the Planning Region generally yields the major part of these metals.

D. FUTURE DEMAND

Future demand for the Region's mineral resources will continue to depend largely on world market conditions, which are affected by many economic, political and technological factors. A growing world population would suggest that there will be a corresponding long-term increase in demand for metals, but restrictions on world economic growth, imposed by events such as the current high cost of energy, render short-term growth predictions of doubtful value. The Region's mineral industry will probably continue to rest largely on sales of nickel, copper, uranium, zinc, silver and iron.

Canada possesses about 21 percent of the free world's uranium reserves and resources, second only to those of the U.S.A. Approximately 80 percent of these, equivalent to 17 percent of the free world's reserves, lie in the Elliot Lake-Agnew Lake area, and are currently estimated as 17,417,947 kg (192,000 tons) of uranium exploitable at prices up to \$10.00 per kilogram (pound) $U_3O_8^1$. The current level of

¹Williams, R.M., and Little, H.W., 1973. Canadian Uranium Resource and Production Capability. Mineral Bulletin MR 140. Department of Energy, Mines and Resources, Ottawa. 27 pg.

production is about 4,535,924 kg/year (5,000 tons/year), which is expected to rise to about 7,711,070 kg/year (8,500 tons/year).

Forecasts of uranium consumption¹ suggest that new production facilities will be required in the western world over the next 20 years to meet demand, and that a considerable increase in exploration to increase reserves will be required.

Silver production from the Region is very largely a by-product of base metal mining at Timmins (to the extent that the Kidd Creek Mine of Texas Gulf Canada Limited is the world's largest silver mine), and consequently, increased production of silver depends upon increased production of base metals.

The relatively small size of the Region's iron deposits, together with other factors, suggest that little, if any, significant expansion of iron ore production will occur in the foreseeable future.

In recent years, the amount of gold produced in the Region has continued to decline. Barring major changes in the economic scene, it is unlikely that this trend will be reversed.

The Region's sand and gravel resources are assuming increasing importance for local use and, in the future, certain of these aggregate resources may be required for use in Southern Ontario.

¹Williams, R.M. 1974. Uranium. Canadian Mining Journal, February 1974, p. 110-114.

E. FUTURE EXPANSION

The high mineral potential in the area suggests a high probability of future mining expansion within the Planning Region. Recently announced major mine expansions are expected to have considerable impact upon the Timmins and Elliot Lake-Agnew Lake areas.

Texas Gulf Canada Limited is presently constructing a copper smelter and acid plant at its property in Timmins. This project will create a significant number of new jobs.

More recently, two mining companies in the Elliot Lake area, Rio Algom Limited and Denison Mines Limited, have announced plans to expand their milling operations from about 9,071,847 kg (10,000 tons) per day in 1974 to 30,844,281 kg (34,000 tons) per day in 1984. Total employment is expected to more than double from the present 2,200 operating level. Agnew Lake Mines Limited, in the Agnew Lake area (north of Espanola) have also announced plans for uranium production. By 1978 the company hopes to reach full production and employ 160-180 people.

Exploration is a factor which affects the growth of the mining industry. The number of mining claims recorded during the period 1965 to 1976 in each of the Mining Divisions within Northeastern Ontario is presented in Table 21.

When comparing the Planning Region with the province, Northeastern Ontario has accounted for over 45 percent of total mining claims recorded, except for the three years of 1969, 1970 and 1972. The actual numbers of claims recorded in the Planning Region have been

TABLE 21
MINING CLAIMS RECORDED - NORTHEASTERN PLANNING REGION

YEAR	LARDER LAKE	PORCUPINE	SUDBURY	SAULT STE. MARIE	NORTHEASTERN ONTARIO	% OF PROVINCIAL TOTAL	TOTAL FOR ONTARIO
1965	3,331	4,790	4,444	5,084	17,649	45.5	38,757
1966	7,607	5,724	5,610	5,502	24,443	62.5	39,097
1967	5,450	2,944	6,195	5,392	21,981	68.1	32,271
1968	4,171	3,923	5,321	10,700	24,115	62.3	38,705
1969	3,404	3,482	3,312	4,089	14,287	31.2	45,852
1970	4,315	3,903	3,868	1,735	13,821	33.9	40,693
1971	4,065	3,840	1,399	1,723	11,027	45.2	24,410
1972	3,253	2,980	1,097	1,220	8,550	44.4	19,267
1973	3,260	2,258	1,988	2,908	10,414	57.3	18,170
1974	4,757	3,456	3,055	1,790	13,058	59.1	22,097
1975	2,916	4,162	1,759	1,711	10,548	53.4	19,761
1976	2,350	5,837	1,824	735	10,746	54.9	19,575

Source: Ontario Mineral Review 1965-1976

showing a decline over the past eight years.

Discovery of new deposits is not the only, nor always the most important, factor affecting the mineral resource base of the province. Advances in technology, by creating new requirements for minerals and by rendering processing methods more efficient and less costly, are major factors in turning waste rock into viable ore deposits. Similarly, changing economic and political relationships are powerful factors affecting the economic viability of mineral deposits. A current incentive to mineral exploration and development is provided in the Cobalt-Gowganda and Kirkland Lake mining areas through the Mineral Exploration Assistance Program.

2. FORESTRY

Forest land is used in a variety of ways and managed for various purposes.

Among these are:

- a) industrial products;
- b) the provision of wildlife habitat;
- c) the provision of recreational facilities and opportunities;
- d) to control erosion, regulate stream flow and for soil conservation.

A. THE FOREST INDUSTRY

The industry is based on the available forest and therefore the diversification of the forest tree species of the Planning Region gives rise to an industrial mixture of sawmills, pulpmills, veneer and particle board mills. (Map 27 and Tables 22, 23 and 24)

In the southern portion of the Region, along the shores of Lakes

TABLE 22

PRIMARY WOOD USING INDUSTRIES OTHER THAN PULP & PAPER MILLS
NORTHEASTERN PLANNING REGION

NORTHERN ADMINISTRATIVE REGION:			ANNUAL CAPACITY (CUNITS) ¹	MILL EMPLOY- MENT
DISTRICT	NAME	LOCATION	1 SHIFT	
Chapleau	Kormak Lumber	Kormak	18,000	15
	Island Lake Lumber	Island Lake	19,000	20
	Chapleau Lumber	Chapleau	34,000	30
	J.E. Martel & Sons	Chapleau	32,000	30
	A. & L. Lafreniere	Chapleau	21,000	25
Cochrane	Abitibi Paper (Stud Mill)	Smooth Rock	14,000	32
	Cochrane Enterprises (plywood)	Cochrane	11,000	190
	Cochrane Enterprises (sawmill)	Cochrane	38,000	41
Gogama	Veilleux Brothers	Stull Twp.	5,000	10
	3 Star Lumber	Gogama	4,000	5
Hearst	United Sawmills	Hearst	56,000	170
	Custom Sawmills	Hearst	56,000	150
	Levesque Plywood & Particle Board	Hearst	32,000	220
	Gosselin Lumber	Calstock	27,000	60
	Lecours Lumber	Calstock	55,000	145
	Newaygo Timber	Mead	56,000	85
	Haavaldsrud Lumber	Hornepayne	22,000	65
Kapuskasing	Spruce Falls Pulp & Paper (Stud Mill)	Kapuskasing	33,000	137
	Moonbeam Lumber	Moonbeam	3,000	16
	A. Lachance	Harty	5,000	22
Kirkland Lake	Kokotow Lumber (closed)	Kenogami	45,000	-
	Elk Lake Planning Mill	Elk Lake	29,000	43
	Wm. Pollock & Sons	Englehart	4,500	7
	Nychuk Lumber	Sheba Twp.	3,000	6
Timmins	Malette Lumber	Timmins	50,000	45
	Malette Waferboard	Timmins	8,000	60
	R. McChesney Lumber	Timmins	20,000	60
NORTHERN ADMINISTRATIVE REGION TOTAL			700,500	1,689

Source: Ministry of Natural Resources, 1976

¹ One cunit equals 100 cubic feet

TABLE 22 (cont'd)

PRIMARY WOOD USING INDUSTRIES OTHER THAN PULP & PAPER MILLS
NORTHEASTERN PLANNING REGION

NORTHEASTERN ADMINISTRATIVE REGION:			ANNUAL CAPACITY (CUNITS) 1 SHIFT	MILL EMPLOY- MENT
DISTRICT	NAME	LOCATION		
Wawa	Dubreuil Bros.	Dubreuilville	47,000	235
	Austin Lumber	Missanabie	36,000	40
Sault Ste. Marie	American Seating	Heyden	5,200	11
	Fleron Lumber Co.	Sault Ste. Marie	9,100	25
	Weldwood	Searchmount	46,400	150
	Weyerhaeuser	Sault Ste. Marie	47,000	270
	Superior Hardwood Veneer	Sault Ste. Marie	1,200	20
Blind River	T.G. Fleron	Thessalon	1,600	14
	Rene Fabris	Elliot Lake	8,000	16
	Birchland Veneer	Thessalon	3,600	70
	Midway Lumber	Thessalon	1,500	27
Espanola	Abbot Townsend & Wilson Ltd.	Bidwell Twp.	2,400	7
	E.B. Eddy Forest Products Ltd.	Nairn Centre	60,000	190
	Eden Lumber	Dawson Twp.	1,000	5
	Knechtal Furniture Ltd.	Sandfield Twp.	1,800	10
	Klages Lumber & Feeds	Sandfield Twp.	1,000	3
Sudbury	Rheal Chartrand	Martland Twp.	3,859	10
	Cockburn Lumber	Ellis Twp.	6,000	6
	Rogerson Lumber	Delamere Twp.	32,750	23
	Poupore Mill	Falconbridge	1,605	7
	Fryer Forest Prods.	Martland Twp.	6,476	12
	A.H. Lahaie & Sons	Delamere Twp.	2,075	9
	Isidore Roy	Ratter Twp.	5,291	16
	Gauthier J. Leo	Parkin Twp.	1,788	7
North Bay	Aime Duval	Mattawa	1,600	8
	Field Lumber	Field	6,000	60
	Goulard Lumber	Sturgeon Falls	12,000	55
	James Gibson & Sons	Blyth Twp.	2,300	8
	Morrison Bros.	Sick Twp.	2,000	24
	L. Brun Co.	Field	1,800	8
	Sklar Furniture Ltd.	Mattawa	13,500	55
	Odorizzi Lumber	Golden Valley	8,000	21
	U.O.P.	Rutherglen	9,500	114
	Nipissing Cedar Prod.	Sturgeon Falls	2,500	12
Temagami	William Milne & Sons	Temagami	25,600	100
	Rexwood Prods.	New Liskeard	15,000	130
NORTHEASTERN ADMINISTRATIVE REGION TOTAL			432,444	1,778
NORTHEASTERN PLANNING REGION TOTAL			1,132,944	3,467

TABLE 23

PULP AND PAPER MILLS - NORTHEASTERN PLANNING REGION

<u>DISTRICT</u>	<u>NAME</u>	<u>LOCATION</u>	<u>ANNUAL CAPACITY (CUNITS) 1 SHIFT</u>	<u>MILL EMPLOY- MENT</u>
<u>NORTHERN ADMINISTRATIVE REGION</u>				
Cochrane	Abitibi Paper	Iroquois Falls	288,000	1,100
	Abitibi Paper	Smooth Rock Falls	202,000	328
Kapuskasing	Spruce Falls Pulp & Paper	Kapuskasing	400,000	2,150
NORTHERN ADMINISTRATIVE REGION TOTAL			890,000	3,578
<u>NORTHEASTERN ADMINISTRATIVE REGION</u>				
Sault Ste. Marie	Abitibi Paper	Sault Ste. Marie	110,000	486
Espanola	Eddy Forest Prods.	Espanola	350,000	800
North Bay	Abitibi Paper	Sturgeon Falls	80,000	475
	Canadian Johns-Manville	North Bay	21,000	250
NORTHEASTERN ADMINISTRATIVE REGION TOTAL			561,000	2,011
NORTHEASTERN PLANNING REGION TOTAL			<u>1,451,000</u>	<u>5,589</u>

Source: Ministry of Natural Resources, 1976

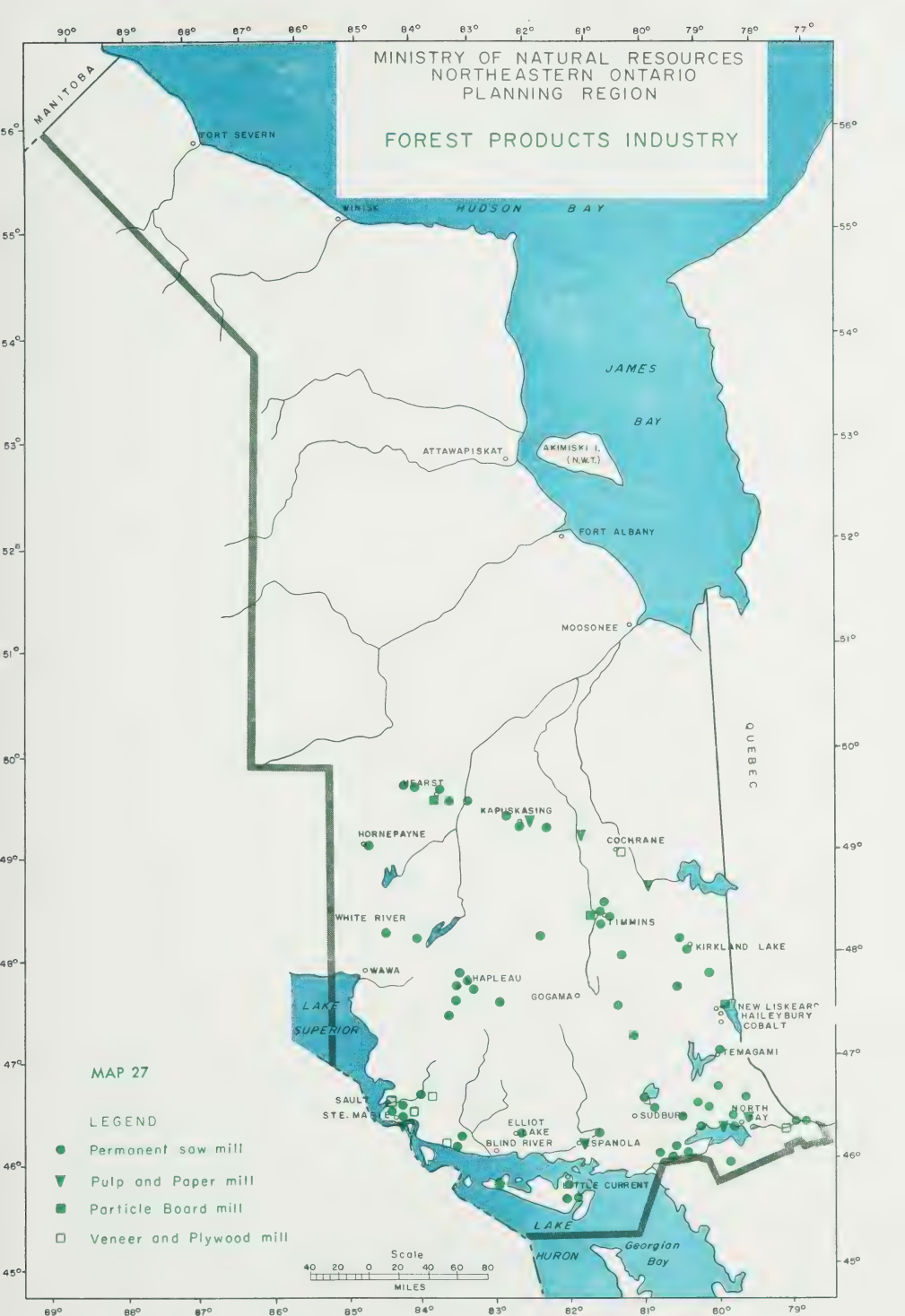


TABLE 24

WOODS INDUSTRY BY TYPE - NORTHEASTERN PLANNING REGION

<u>DISTRICT</u>	<u>PULPMILL</u>	<u>SAWMILL</u>	<u>OTHER</u>
<u>NORTHERN ADMINISTRATIVE REGION</u>			
Chapleau	-	5	-
Cochrane	2	2	1
Gogama	-	2	-
Hearst	-	7	2
Kapuskasing	1	3	-
Kirkland Lake	-	4	-
Timmins	-	2	1
NORTHERN ADMINISTRATIVE REGION TOTAL	3	25	4
<u>NORTHEASTERN ADMINISTRATIVE REGION</u>			
Wawa	-	2	-
Sault Ste. Marie	1	4	3
Blind River	-	4	1
Espanola	1	5	-
Sudbury	-	8	-
North Bay	2	9	1
Temagami	-	1	1
NORTHEASTERN ADMINISTRATIVE REGION TOTAL	4	33	6
NORTHEASTERN PLANNING REGION TOTAL	7	58	10

Source: Ministry of Natural Resources, 1976

Superior and Huron and through the Nipissing area, the tolerant hardwoods, yellow birch, maple and some white and red pine and spruce, support relatively large veneer and sawmills. The best yellow birch and some maple and oak are used to produce veneers. The secondary quality hardwoods, pines and spruces are sawn as lumber for furniture, flooring and construction. Two pulp mills, using various mixtures of spruce, poplar and pine are also in the area. Two other pulp mills are in the area, but generally draw their supplies from further north.

To the north of the Great Lakes Forest is the Boreal Forest. This forest consists mainly of conifers, spruce, jack pine, balsam, with stands of poplar and white birch.

The lower portion of this Boreal Forest and the centre of the Planning Region are characterized by jack pine stands and some spruce supporting a strong sawmilling industry. This industry basically produces 2 x 4 and 2 x 6 lumber for light construction purposes.

The northerly area of the Boreal Forest, south of the Hudson Bay Lowlands, grows mostly spruce and balsam with some jack pine. This area includes the clay soils of the Hearst-Cochrane area. Three pulp mills and numerous sawmills are supported by this area. Particle board mills exist in both the Boreal Forest area as well as the Great Lakes Forest area.

There is an ever-increasing interchange of wood products between the sawmills and pulp mills of the Region. Wood products sent to pulp mills would include wood chips as well as roundwood. In turn, the pulp and

paper industry directed a quantity of sawlogs to some of the sawmills. More recently, however, many of the pulpmills have built their own stud and sawmills as appendages to their existing plant. These stud mills turn out 2 x 4's almost exclusively.

In the southern portion of the Region there is a surplus of heavy hardwood for pulpmill furnish. This material is not of a high enough quality for sawlogs and is at present left uncut because the existing forest industry cannot utilize the total supply.

Throughout the whole Region there is a surplus of poplar and white birch which is largely underutilized because of insufficient demand.

The annual allowable cut for the Region for industrial use is calculated to be 4.6 million cunits¹ for all species. This figure is likely to decrease in the second twenty-year period of forest management planning. The reductions will be caused by discarding the very poor sites from calculations of the allowable cut as well as the withdrawal from commercial wood fibre production of acreages for single purpose use.

There are 14,500 jobs directly associated with the forest industry in woods and mill operations. An employment multiplier of 2.73² applied to these "direct" jobs indicates that the total direct and indirect employment related to the forest resource of the Planning Region approximates 39,500 jobs.

¹One cunit equals 100 cubic feet.

²From Forest Production Policy Options for Ontario, Division of Forests, Ministry of Natural Resources, April 1972.

In 1974-1975, the actual cut from Crown lands in the Region was 2.5 million cunits and revenue to the province from industry in the area amounted to \$15,400,000 for Crown stumpage charges and management and protection charges.

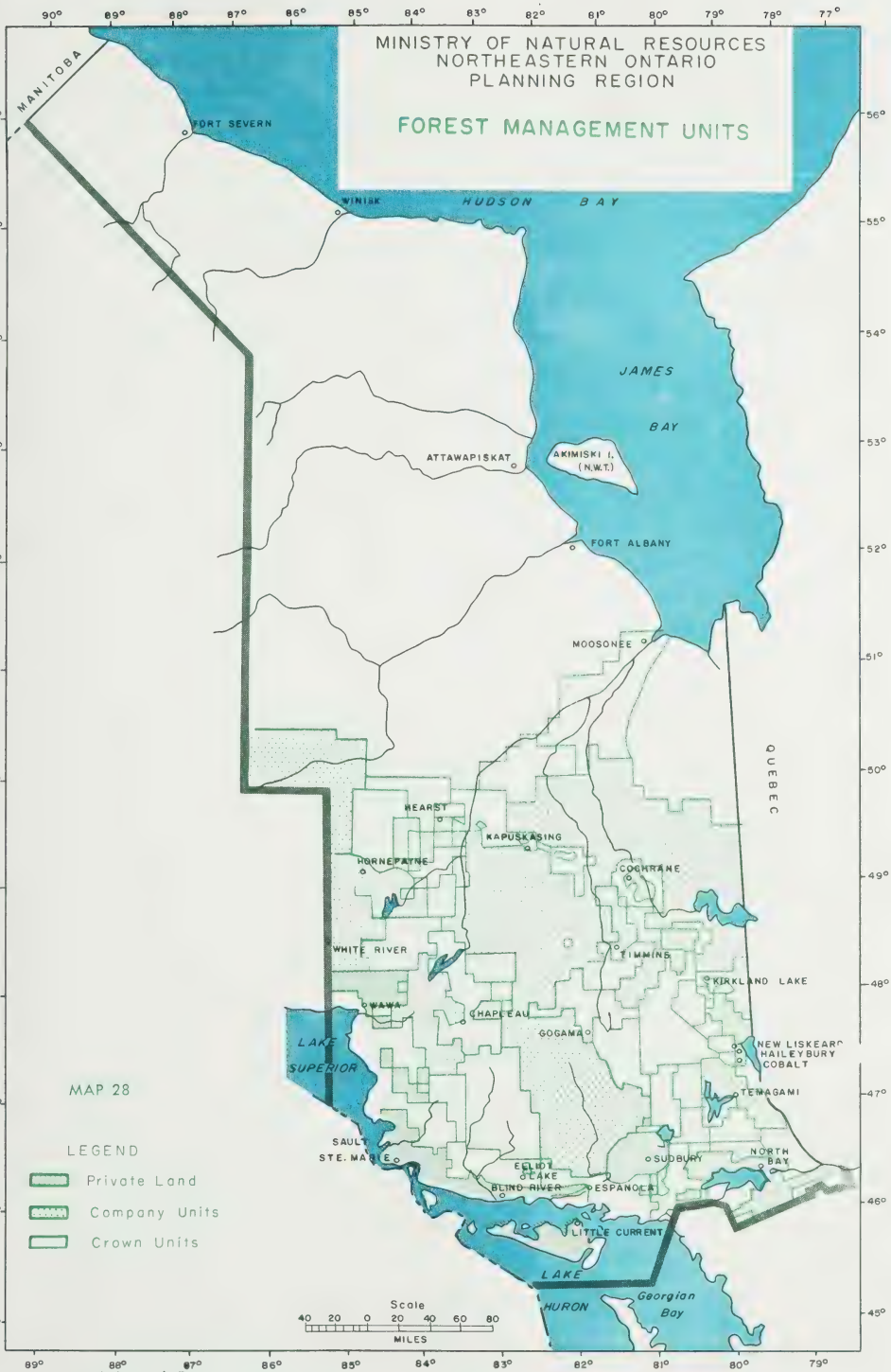
In 1971 it was calculated that the value added by manufacturing netted the province \$139 for each cunit of wood. This would mean an additional \$347,500,000 put into the economy in 1974-1975.

The forests are used for many purposes other than the production of commercial wood fibre for industrial use. They support and protect fish and wildlife habitat as well as recreation opportunities.

B. THE MANAGEMENT SYSTEM

The forest management system is based on the division of the province into management units. Management and operating plans for each unit are prepared, implemented and recorded using the Forest Resources Inventory as a base (Map 28). Some units are totally allocated to the supply of one company, while others may be used to supply several small companies. Access, management techniques and customer services are the criteria for establishing these units. The province is photographed in blocks over a ten-year rotation period. The aerial photographs are interpreted to supply the data used in the production of forest stand maps and inventory ledgers.

Given this resource information, a forest management plan over the whole unit can then be prepared. This plan covers a 20-year period and expresses policy and broad guidelines, sets management objectives for the unit, encompasses environmental concerns and includes a



calculation of the allowable cut.

In order to determine the actual areas and volumes to be harvested, further sampling is carried out on the ground. With this additional information, an operating plan is prepared for a 10-year period. It indicates what shall be harvested, the technique for harvesting to be used in special areas, the access requirements and the regeneration requirements for the next crop.

The calculated allowable cut is adjusted (usually reduced) each time an operating plan is prepared. Adjustments are necessary because of market conditions, past sampling errors or catastrophies in the forests (i.e. large fires, blowdowns or insect damage).

The present allowable cut is 4,600,000 cunits. This is made up of 2,900,000 cunits softwood and 1,700,000 cunits of hardwood.

The actual cut by industry varies from year to year due to market demands. For the period 1973-1976, it averaged 1,950,000 cunits per annum. This was made up of an average 1,710,000 cunits of softwood and 240,000 cunits of hardwood. It should be noted that 1973-1974 and 1975-1976 were poor years and 1974-1975 was an exceptionally good year for the forest industries. Direct revenue obtained by the province from the sale of wood in 1974-1975 was \$15,400,000.

C. SILVICULTURE OPERATIONS

To maintain the forest in a productive state so that it will continue

to provide for a variety of uses, an extensive silvicultural program is carried on.

In 1974-1975, 24,281.14 hectares (60,000 acres) of land were regenerated, principally by planting and aerial seeding, and 14,164 hectares (35,000 acres) are expected to regenerate naturally. This compares to 84,983.98 hectares (210,000 acres) which were cutover that year. The difference in area is composed of partially out stands which cannot be treated economically and other areas not covered by the production policy implementation schedule. Much of the cutting, especially in the pure spruce and jack pine stands, is carried out in a clear cutting system. Mixed wood stands are often harvested just for their conifer content, leaving a residual stand of poplar and birch. In tolerant hardwood areas the better quality trees are cut for sawlogs and veneer, leaving a residual pulpwood stand.

In order to obtain satisfactory results from planting and seeding, most of the cutovers have to be site prepared. The level of site preparation in 1974-1975 was 15,378.05 hectares (38,000 acres) and was effected by using such equipment as shark-finned barrels pulled behind a tractor, Young's teeth on dozer blades, straight blade work, Bracke cultivator and Marttiini plough. Prescribed burning for site preparation is becoming more acceptable today and on some sites may be the only means by which regeneration can be satisfactorily obtained. Modified harvest cutting, for example, strip cutting, whereby a stand is harvested in two or more stages, is also gaining a favour and here again may be the only means of regenerating some sites.

Tending operations, such as herbicide spraying to control brush growth on planted sites, is carried out at a level of approximately 14,973.37 hectares (37,000 acres) annually.

D. SILVICULTURE SUPPORT

To support this silvicultural program, four forest nurseries in the Region provide bare root and container stock. These nurseries are: Swastika, with an annual production of 19,000,000 seedlings and 4,000,000 containers; Chapleau, producing 3,000,000 seedlings; Gogama, producing 1,500,000 seedlings; and Thessalon with a potential of 4,000,000 stock and containers. While there will be some expansion in bare root nursery stock at these nurseries, particularly Swastika, it is expected that the major expansion will occur in the production of containerized seedlings which will allow for planting over a longer time period during the growing season and will reduce the growing time at the nurseries.

In addition, nursery stock is obtained from nurseries from outside this Region.

To support the large nursery program and direct seeding projects, a large volume of cones are collected annually to provide tree seed. About 3,500 hectolitres of cones are collected annually on a contract basis, the bulk of which is jack pine, with smaller amounts of white spruce and black spruce. These cones are sent to the Angus Seed Plant for processing and stored there until required.

A tree improvement program to improve the genetic quality of tree seed is co-ordinated by the Research Branch at Maple. While much of

this work is directed at white spruce and black spruce, jack pine is receiving some attention as well. To further the tree improvement work, a tree improvement centre is being developed at the former Spruce Falls nursery site near Moonbeam.

E. RESEARCH

Research is conducted by the Ministry of Natural Resources either alone, or in co-operation with the Federal Government, on mutually agreed upon projects. Examples of current research projects are studies in the application and effectiveness of modified harvest cutting on black spruce sites to promote natural regeneration, the development of a paper pot container system, and the use of prescribed burning for site preparation.

F. COMMITMENTS TO INDUSTRY

In order to have a viable and strong industry, certain commitments are necessary. These vary according to industry, place and time.

In the forest industry of Ontario, these commitments are expressed in the form of licences and volume agreements. Crown timber licences give the industry permission to enter upon Crown land to remove timber. They are usually for three, five, nine or 21 years. Twenty-one years is the maximum possible. Renewals may be made. Volume agreements state that the Minister will promise to supply a particular volume from a particular area. They are mostly made for five or ten years.

In general, the wood resource from the Planning Area is totally committed, although it is not being fully utilized at this time. If it

is not under licence or volume agreement at a particular moment, it is most likely earmarked by a management plan for a particular company in the future.

There are certain species which no one seems to want in any appreciable quantity and even where some species are licenced, the operator is reluctant to harvest them because of their quality or a lack of markets. The two most obvious such species are poplar and white birch. The same may be said for forest products produced from these species. While hardwood sawlogs are in great demand, hardwood pulpwood is underutilized as there is at present a limited market for it.

G. FUTURE DEMANDS

The long-term production target assigned to the Planning Region is 3.5 million cunits annually, 38% of the provincial total of 9.1 million cunits (this level was approved by the Provincial Government). It is now apparent that industrial demand in the near future will match and exceed this target which was assigned in 1972. The Division of Forests is now preparing a revised production target which will attempt to deal with the unexpected pace of industrial expansion that has occurred in recent years. Preliminary estimates indicate that the production target should be increased by approximately 30% to 12.5 million cunits provincially or 4.6 million cunits for the Planning Region.

3. RECREATION

The broad topic of recreation will be discussed in terms of Provincial Parks, National Parks, Conservation Areas, Crown Land Recreation, Private

(cottage) Recreation, Commercial Recreation, and Fish and Wildlife Oriented Recreation (angling and hunting). All of these contribute to Northeastern Ontario's tourism.

A. PROVINCIAL PARKS

a) Introduction

The provincial park program in Northeastern Ontario is aimed at protecting areas of natural, cultural, historic and scientific significance for the recreational and educational use and enjoyment of present and future generations. In meeting the requirements of this program, it is necessary to establish a broad spectrum of parks which have significant differences in size, location, quality of natural features and recreational capability. In order to facilitate rational planning of a balanced system, and establish effective guidelines for planning, development and management, parks are designated in accordance with the Classification of Provincial Parks in Ontario¹.

b) Current Supply

The Northeast Planning Region contains a large number and variety of parks. These are summarized on Table 25.

Two primitive parks (Killarney and Polar Bear Provincial Parks) contain slightly over 2,428,114 hectares (6,000,000 acres). These two parks account for over 89% of the total provincial park acreage in Northeastern Ontario (Table 25).

¹Department of Lands & Forests, Classification of Provincial Parks in Ontario, 1967, Parks Branch, 1967.

TABLE 25

PROVINCIAL PARK ACREAGE IN NORTHEASTERN ONTARIO

<u>TYPE</u>	<u>NUMBER</u>	<u>PARK HECTARE/ (ACREAGE)</u>	<u>% OF TOTAL PARKS HECTARE/(ACREAGE)</u>
Primitive	2	2,442,815 (6,036,328)	89.1
Wild River	5	38,434 (94,973)	1.4
Natural Environment	13	243,331 (601,283)	8.8
Recreation	13	15,900 (39,290)	<.1
Nature Reserve	1	44 (108)	<.1
Wilderness Areas ¹	13	824 (2,036)	<.1
	—	—	—
	47	2,741,348 (6,774,018)	100.0

¹ Wilderness Areas: Are land units having an area of not more than 259 hectares (640 acres) that incorporate significant landscape, botanical or cultural features. Areas set aside are done so under the Wilderness Areas Act.

Source: Park Property Status Report, 1976

Five wild river parks encompass 38,434 hectares (94,973 acres) and comprise the third highest percentage of the Region's total park acreage.

The 13 natural environment (243,331 hectares - 601,283 acres) and 13 recreation (15,900 hectares - 39,290 acres) parks found in the Region are concentrated primarily along Highways 11 and 17, (Map 29). The Montreal River glacial beach (44 hectares - 108 acres) located in Sault Ste. Marie District is the only nature reserve that presently exists in the Region (Table 26).

c) Capacity

In 1976, the provincial parks within the Planning Region provided recreational opportunities for 1.4 million visitors. Currently, 34 parks (exclusive of the Wilderness Areas) within the Region contain approximately 3,615 developed campsites. Park reserves have a potential for the development of approximately 3,505 additional sites. In addition to this total, there are interior campsites within many of the established Provincial Parks in Northeastern Ontario¹.

The ratio of park acreage to number of campsites varies with the type of park. High acreage/campsite ratios occur for wilderness parks, moderate ratios for natural environment parks and very low ratios, in most instances, for recreation parks.

In order to determine how close to capacity individual parks are

¹The exact number of interior campsites is under review.



TABLE 26
PROVINCIAL PARKS - AREA AND CAMPSITES - NORTHEASTERN PLANNING REGION

CLASSIFICATION	PARK	LOCATION	AREA IN REGULATIONS		1976 DEVELOPED CAMPSITES	1976 CAMPER DAYS
			HECTARES	(ACRES)		
I PRIMITIVE	Killarney	S. of Sudbury, Hwy. 637	34,126	(84,328)	140	34,182
	Polar Bear	James & Hudson Bays	2,408,689	(5,952,000)	-	-
		CLASS I TOTAL	2,442,815	(6,036,328)	140	34,182
II WILD RIVER	Chapleau-Nemegosenda Rivers	Northeast of Chapleau	10,117	(25,000)	-	-
	Lady Evelyn River	West of Latchford	2,464	(6,088)	-	-
	Mattawa River	East of North Bay	3,258	(8,050)	-	-
	Mississagi River	West of Biscotasing	4,708	(11,635)	-	-
	Winisk River (part only)	North of Geraldton	17,887	(44,200)	-	-
		CLASS II TOTAL	38,435	(94,973)	0	0
III NATURAL ENVIRONMENT	Esker Lakes	N.E. of Kirkland Lake, Hwy. 66	3,389	(8,371)	136	19,773
	Greenwater	N.W. of Cochrane, Hwy. 11	5,350	(13,220)	108	12,760
	Ivanhoe Lake	S. of Foleyet, Hwy. 101	1,214	(3,000)	150	26,520
	Lake Superior	N. of Sault Ste. Marie, Hwy. 17	155,658	(384,640)	352	47,090
	Kap-Kig-Iwan	Englehart, Hwy. 11	333	(824)	64	8,548
	Missinaibi Lake	North of Chapleau	44,061	(108,877)	48	8,650
	Mississagi	N. of Elliot Lake, Hwy. 639	2,883	(7,124)	100	12,354
	Nagamiasis	S.W. of Hearst, Hwy. 631	5,846	(14,446)	165	20,716
	Restoule	S.W. of North Bay, Hwy. 534	662	(1,635)	278	52,768
	Samuel de Champlain	E. of North Bay, Hwy. 17	2,349	(5,805)	216	29,070
	The Shoals	W. of Chapleau, Hwy. 101	11,198	(27,670)	58	6,638
	Tidewater	Moose River at Moosonee	980	(2,421)	34	1,563
	Obatanga	N.W. of Wawa, Hwy. 17	9,409	(23,250)	120	21,500
		CLASS III TOTAL	243,331	(601,283)	1,829	274,850

TABLE 26 Continued
PROVINCIAL PARKS - AREA AND CAMPSITES - NORTHEASTERN PLANNING REGION

CLASSIFICATION	PARK	LOCATION	AREA IN REGULATIONS HECTARES	(ACRES)	1976 DEVELOPED CAMPSITES	1976 CAMPER DAYS
IV RECREATION	Antoine	Mattawa, Hwy. 17	12	(30)	30	1,357
	Batchawana Bay	N. of Sault Ste. Marie, Hwy. 17	169	(418)	-	-
	Chutes	Massey, Hwy. 17	109	(270)	91	23,574
	Fairbank	W. of Sudbury, Hwy. 658	105	(260)	160	29,147
	Finlayson Point	Temagami, Hwy. 11	37	(92)	144	19,541
	Five Mile Lake	S. of Chapleau, Hwy. 129	456	(1,128)	46	4,943
	Kettle Lakes	E. of Timmins, Hwy. 101	993	(2,454)	168	35,388
	Marten River	N. of North Bay, Hwy. 11	400	(989)	216	38,575
	Mashkinonje	West end of Lake Nipissing	1,242	(3,070)	200	-
	Pancake Bay	N. of Sault Ste. Marie, Hwy. 11	466	(1,151)	340	60,217
	Ramsay Lake	E. of Kapuskasing, Hwy. 11	2,964	(7,325)	107	23,430
	Wakami	S.E. of Chapleau, off Hwy. 129	8,806	(21,760)	68	12,535
	Windy Lake	N.W. of Sudbury, Hwy. 144	139	(343)	76	22,594
		CLASS IV TOTAL	15,898	(39,290)	1,646	271,301
V NATURE RESERVE	Montreal River	S. of Lake Superior Provincial Park	44	(108)	-	-
		CLASS V TOTAL	44	(108)	-	-
VI WILDERNESS AREAS	New Brunswick House Post	Cromlech Township	55	(137)	-	-
	Old Brunswick House Post	Missinaibi Lake Provincial Park	*	(*)	-	-
	Whitefish Falls	Missinaibi Lake Provincial Park	*	(*)	-	-
	Fairy Point	Missinaibi Lake Provincial Park	*	(*)	-	-
	Sutton Lake Gorge	Patricia District	51	(125)	-	-
	Michipicoten	Michipicoten Township	223	(552)	-	-
	Hilton Township	Hilton Township, St. Joseph Island	39	(97)	-	-
	Crater Lakes	Killarney Area	223	(550)	-	-
	Eighteen Mile Island	Eighteen Mile Island, French River	195	(482)	-	-
	Abitibi Lake Narrows	Lake Abitibi	4	(10)	-	-
	Old Fort Albany	Fort Albany	4	(11)	-	-
	Sankey Township	Sankey Township	29	(72)	-	-
	Cape Henrietta Maria	Polar Bear Provincial Park	*	(*)	-	-
		CLASS VI TOTAL	823	(2,036)	-	-
* Acreage included within Provincial Park						
PLANNING REGION TOTAL			2,741,346	(6,774,018)	3,615	580,333

* Acreage included within Provincial Park

Source: Park Property Status Report, 1976

operating, a campground occupancy statistic is calculated. Campground occupancy is defined as the percentage of campsites occupied during the months of July and August. The optimum occupancy range is between 50 percent and 60 percent for the 62-day period. It is assumed that campgrounds experiencing over 60 percent occupancy for more than one season are being overutilized. In these circumstances, deterioration of the environment and recreation experience are inevitable. Conversely, occupancy of less than 50 percent represents underutilization and usually demonstrates a lower operational economy. Within the Northeast Provincial Park system surplus campsite situations occur primarily in natural environment parks while deficit situations occur in recreation parks.

Areas which presently have a deficiency of provincial park campgrounds are the Highway 11 corridor from Temagami to Matheson, the Highway 17 corridor from Massey to Sault Ste. Marie and the Highway 68 corridor from South Baymouth to Espanola.

d) Regional Impact

The exact impact of provincial parks within the Planning Region is not known. However, the parks do promote tourist spending throughout the area in the form of expenditures for supplies, gas and food. In 1975, there were approximately 274,460 campers who stayed approximately 544,136 camper days within the provincial parks. Over 1.2 million people visited the Northeastern Planning Region's provincial parks in 1974.

e) Reserves

In addition to the 34 provincial parks and 13 wilderness areas, 25 park reserves with a total acreage of 194,266 hectares (480,041 acres) are situated in various locations throughout the Region (Table 27). The development capability of these sites to attract and sustain recreational use has not been established; however, a rough estimate would indicate that these reserves have a potential of approximately 3,505 campsites (Table 27).

B. NATIONAL PARKS

The only operating national park within the Planning Region is historic Fort St. Joseph. This park has been developed to preserve the recreation interpretation opportunities of the fort.

To the immediate southwest of White River, along the Lake Superior shoreline, a second national park is in the initial stages of development. This park, Pukaskwa National Park, although outside the Northeastern Planning Region, will serve as a significant tourist attraction and will provide an additional large natural environment park to the Region. This proposed national park will complement the Provincial Park System in Northeastern Ontario.

C. CONSERVATION AUTHORITY AREAS

In Northeastern Ontario there are four Conservation Authorities¹ which, under the enabling legislation of the Conservation Authorities Act, can acquire land for flood and erosion control within their watersheds.

¹The four Conservation Authorities are: Mattagami Region Conservation Authority, Nickel District Conservation Authority, North Bay-Mattawa Conservation Authority, Sault Ste. Marie Region Conservation Authority.

TABLE 27

PROVINCIAL PARK RESERVES

PROBABLE CLASSIFICATION	NAME	LOCATION	AREA IN ACRES		ESTIMATED POTENTIAL CAMPSITES
			HECTARES	(ACRES)	
WILD RIVER	Missinaibi River	Missinaibi Lake to Moose River	10,927	(27,000)	-
		CLASS TOTAL	10,927	(27,000)	-
NATURAL ENVIRONMENT	Mashagama	N. of Thessalon, Hwy. 129	259	(640)	-
	Missinaibi Lake	N. of Chapleau	18,434	(45,552)	-
	The Shoals	W. of Chapleau, Hwy. 101	11,198	(27,670)	-
	Missisagi	N. of Elliot Lake, Hwy. 639	39,254	(97,000)	-
	Dividing Lake	S. of Gogama, Hwy. 144	7,786	(19,240)	400
	Nagagami Lake	N.W. of Hornepayne	1,653	(4,085)	400
	Long Point Peninsula	S. Shore of Abitibi Lake	7,487	(18,500)	300
	Pierre-Montreuil	N.E. of Cochrane	17,032	(42,088)	200
	W.B. Greenwood	W. of Latchford, Hwy. 11	9,308	(23,000)	200
	Kakawibik Lake	E. of White River, Hwy. 17	23,829	(58,882)	150
	Aubrey Falls	N. of Thessalon, Hwy. 129	6,860	(17,000)	200
	Restoule	S.W. of North Bay, Hwy. 534	467	(1,155)	-
		CLASS TOTAL	143,587	(354,812)	1,850
RECREATION	Rogers	N.W. of Hearst, Hwy. 11	611	(1,510)	-
	Halfway Lake	N. of Sudbury, Hwy. 144	23,569	(58,240)	215
	Fushini	N.W. of Hearst, Hwy. 11	3,642	(9,000)	40
	Dana-Jowsey	W. of Timmins, Hwy. 101	2,590	(6,400)	300
	La Motte Lake	N. of Gogama, Hwy. 144	506	(1,250)	450
	McCann	S. of Matheson	259	(640)	50
	Otter Rapids	N.W. of Cochrane	197	(486)	250
	Mark's Bay	S.W. of Sault Ste. Marie, Hwy. 530	104	(258)	150
	Wanapitei Lake	N. of Sudbury, Hwy. 69	1,349	(3,334)	200
	South Bay	South Bay, Lake Nipissing	1,604	(3,963)	-
		CLASS TOTAL	34,431	(85,081)	1,655
HISTORICAL	La Cloche	S. of Massey	4,969	(12,278)	-
		CLASS TOTAL	4,969	(12,278)	-
NATURE RESERVE	Pot Holes	30 miles east of Wawa, Hwy. 101	352	(870)	-
		CLASS TOTAL	352	(870)	-
PLANNING REGION TOTAL			194,266	(480,041)	3,505

Source: Park Property
Status Report, 1976.

Lands acquired by the Conservation Authorities have been traditionally developed for multiple use activities with recreation being considered an important use. Where Conservation Authority lands permit recreation, these lands satisfy in part local and regional recreation demand.

The Province, through the Conservation Authorities Branch of the Ministry of Natural Resources, assists with the acquisition and development of conservation areas. In 1976, approximately one-half (\$180,000) of the funds in Northeastern Ontario for acquisition and development of conservation areas will be provided from the Province.

There are five conservation areas which provide recreation opportunities in Northeastern Ontario:

- | | |
|---|-------------------------------|
| 1. Lake Laurentian Conservation Area
(Nickel District) | - 367 hectares
(908 acres) |
| 2. Garson Conservation Area
(Nickel District) | - 64 hectares
(158 acres) |
| 3. Whitson Lake Area No. 2
(Nickel District) | - 16 hectares
(40 acres) |
| 4. Crystal Creek Conservation Area
(Sault Ste. Marie Region) | - 279 hectares
(690 acres) |
| 5. Fort Creek Conservation Area
(Sault Ste. Marie Region) | - 73 hectares
(180 acres) |

D. CROWN LAND RECREATION (NON-PARK)

A very significant proportion of recreation and tourism occurs on the Crown lands of Northeastern Ontario. The activities involved include picnicking, bathing, angling, hunting, camping, canoeing and boating.

Some of this activity takes place on specific sites adjacent to a road or water, depending upon the particular activity involved. There are approximately 307 officially designated access points operated by the Ministry in the Region. There are, of course, many more unofficial sites associated with roads and almost an infinite number located along the lakes and river routes.

Accurate figures of the amount and distribution of recreation use of Crown lands are presently not available. However, the Ontario Recreation Survey results indicate that 14.1 percent of Ontario residents camping nights in Ontario took place on Crown land¹.

The Ministry, through its Crown Land Recreation Study, is obtaining a more accurate assessment of the demand and supply of Crown land recreational opportunities.

E. PRIVATE RECREATION - COTTAGING

Cottages, ski chalets, hunt and fish camps, are examples of seasonally used private recreation facilities. Of these, the private cottage is paramount in terms of number, distribution and use.

a) Cottage Distribution

Within the Planning Region, there are approximately 23,760 private cottages situated on lots originating from private sales and from the sale and leasing of Crown lands (Map 30 and Table 28).

Large areas of especially high cottage densities occur in the

¹Tourism and Outdoor Recreation Planning Study Committee, Ontario Recreation Survey, May-August 1973, Progress Report 1, January 1974.

Batchawana-Havilland Bay areas of Lake Superior; the St. Joseph Island area; Bay of Islands and MacGregor Bay areas of the north shore of Lake Huron; Manitoulin Island; Lake Temagami and most of the shoreline of Lake Nipissing. Most of the remaining areas of higher cottage density are oriented to the large, accessible lakes or lake clusters near urban centres. The following are examples: Remi Lake-Kapuskasing; Barbers Bay-Timmins; Kenogami Lake-Kirkland Lake; Lake Nosbonsing-North Bay; and Lake Penage-Sudbury.

Although not utilized to the same degree, approximately 1,690 hunt and fish camps have been authorized in Northeastern Ontario through land use permits. These camps are particularly numerous in some parts of the Planning Region (Table 29).

b) Regional Impact

Cottages have important economic and environmental impacts in Northeastern Ontario. The degree of impact is related to the density of development and the amount of use generated by each cottage.

The annual cottage use varies considerably within the Region, largely because of distances involved from home to cottage and length of season. Surveys of existing cottages in the Planning Region indicate a range of use of 200-350 user-days annually.

Approximately 7,128,000 cottage user-days has been estimated within the Planning Region. This estimate is based on a total of 23,760 private cottages being used on an average of 300 user-days

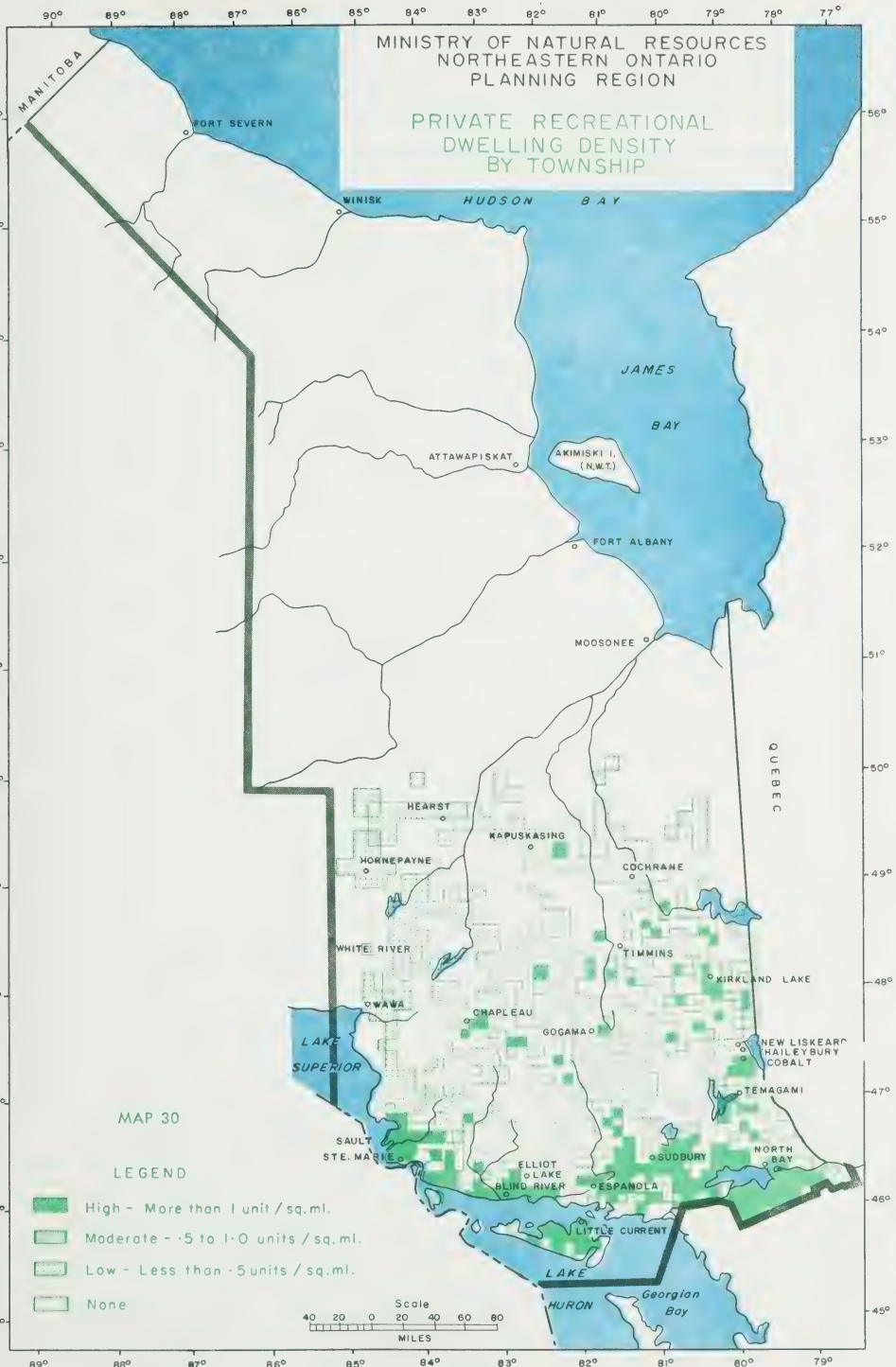


TABLE 28

DISTRIBUTION OF PRIVATE RECREATIONAL COTTAGES LOCATED IN
UNORGANIZED AREAS AND ORGANIZED MUNICIPALITIES

<u>DISTRICT</u>	<u>UNORGANIZED</u>	<u>ORGANIZED</u>	<u>TOTAL</u>	<u>% OF PLANNING REGION</u>
<u>NORTHERN ADMINISTRATIVE REGION:</u>				
Hearst	221	7	228	1
Kapuskasing	15	654	669	3
Cochrane	116	50	166	1
Gogama	314	0	314	1
Chapleau	337	104	441	2
Timmins	206	445	651	3
Kirkland Lake	<u>700</u>	<u>426</u>	<u>1,126</u>	<u>5</u>
TOTAL - NORTHERN ADMINISTRATIVE REGION	1,909	1,686	3,595	16
<u>NORTHEASTERN ADMINISTRATIVE REGION:</u>				
Wawa	384	60	444	2
Sault Ste. Marie	2,208	1,510	3,718	16
Blind River	1,141	419	1,560	7
Espanola	1,194	1,482	2,676	11
Sudbury	2,881	2,130	5,011	21
Temagami	942	328	1,270	5
North Bay	<u>2,720</u>	<u>2,607</u>	<u>5,327</u>	<u>22</u>
TOTAL - NORTHEASTERN ADMINISTRATIVE REGION	11,470	8,536	20,006	84
<u>NORTH CENTRAL ADMINISTRATIVE REGION:</u>				
White River (portion)	134	0	134	<1
Geraldton (portion)	26	0	26	<1
Terrace Bay (portion)	<u>0</u>	<u>0</u>	<u>0</u>	<u><1</u>
TOTAL - NORTH CENTRAL ADMINISTRATIVE REGION (PORTION)	160	0	160	<1
 TOTAL - NORTHEASTERN PLANNING REGION	 <u>13,539</u>	 <u>10,222</u>	 <u>23,761</u>	 <u>100</u>

Source: Ministry of Natural Resources Land Tax Records 1973.
Municipal Records 1973.

TABLE 29
DISTRIBUTION OF HUNT AND FISH CAMPS

<u>DISTRICT</u>	<u>TOTAL</u>	<u>% OF PLANNING REGION</u>
<u>NORTHERN ADMINISTRATIVE REGION:</u>		
Hearst	74	4
Kapuskasing	79	5
Cochrane	100	6
Gogama	170	10
Chapleau	110	7
Timmins	78	5
Kirkland Lake	62	4
Moosonee	<u>1</u>	<u><1</u>
TOTAL - NORTHERN ADMINISTRATIVE REGION	674	41
<u>NORTHEASTERN ADMINISTRATIVE REGION:</u>		
Wawa	11	1
Sault Ste. Marie	142	8
Blind River	173	10
Espanola	80	5
Sudbury	212	13
Temagami	109	6
North Bay	<u>280</u>	<u>16</u>
TOTAL - NORTHEASTERN ADMINISTRATIVE REGION	1,007	59
<u>NORTH CENTRAL ADMINISTRATIVE REGION:</u>		
Geraldton (portion)	4	<1
Terrace Bay (portion)	3	<1
White River (portion)	<u>1</u>	<u><1</u>
TOTAL - NORTH CENTRAL ADMINISTRATIVE REGION (portion)	8	<1
 TOTAL - NORTHEASTERN PLANNING REGION	 <u>1,689</u>	 <u>100</u>

Source: Ministry of Natural Resources 1976.

per dwelling per year. This seven million user-days generated annually from existing cottages is expected to increase as the trend towards year round use of cottages becomes more widespread.

The use of hunt and fish camps is more difficult to assess. In some cases, fish camps may be utilized almost to the same degree as seasonal cottages. An average 100 user-days per camp per year would result in 169,000 user-days being generated by this form of recreational dwelling (Table 29).

The economic impact generated by the approximately 23,760 private recreational cottage dwellings is conservatively estimated to be in the neighbourhood of \$23,760,000, based on a figure of \$1,000 expended annually for such items as taxes, food, repairs, recreational equipment, gasoline, etc. This figure ignores the rather considerable economic impact of the initial construction and servicing of the cottage building, as well as the revenue generated to the Province in the form of annual rental from Crown leases.

c) Cottaging - Future Supply

Conditions affecting the future supply of lots for cottage development include physical capability of the land and water, accessibility of sites and the compatibility of cottage development with other types of land use. These constraints have made it increasingly difficult to meet the Regional demand for cottages.

d) Cottage Demand

In 1973-1974, a search of the mailing addresses given for cottage owners within unorganized areas determined that 57 percent of the

cottagers resided within 161 km (100 miles) of their cottage; 20 percent came from outside the province; and 23 percent of the owners had their residences in the province but over 161 km (100 miles) from their cottage location.

In the northern portion of the Planning Region, along Highway 11, non-resident and non-local ownership decreased to 13 percent and 14 percent respectively, with local residents accounting for 73 percent of the total cottage ownership (Table 30). Data collected tends to indicate that in the northern sections of the Highway 11 corridor, cottage demand in the past has come predominantly from the residents of the area, not from Southern Ontario or the United States, as it has along the Highway 17 corridor (Map 31).

In terms of the demand generated by residents of the Planning Region for cottages, the results of recent household recreation participation surveys¹ show that while 13 percent of those interviewed already had a cottage, 16 percent expected to obtain a cottage and another 35 percent wished to have a cottage. The remaining 36 percent of those surveyed stated that they had no interest in obtaining a cottage.

If it is assumed that the 16 percent who reported that they expect to obtain a cottage approximates the actual demand for cottages, then the demand for cottages from the present resident

¹ Northeastern Ontario Recreation Participation Survey, Ministry of Natural Resources, 1973.
Sault Ste. Marie Recreation Participation Survey, Ministry of Natural Resources, 1972.

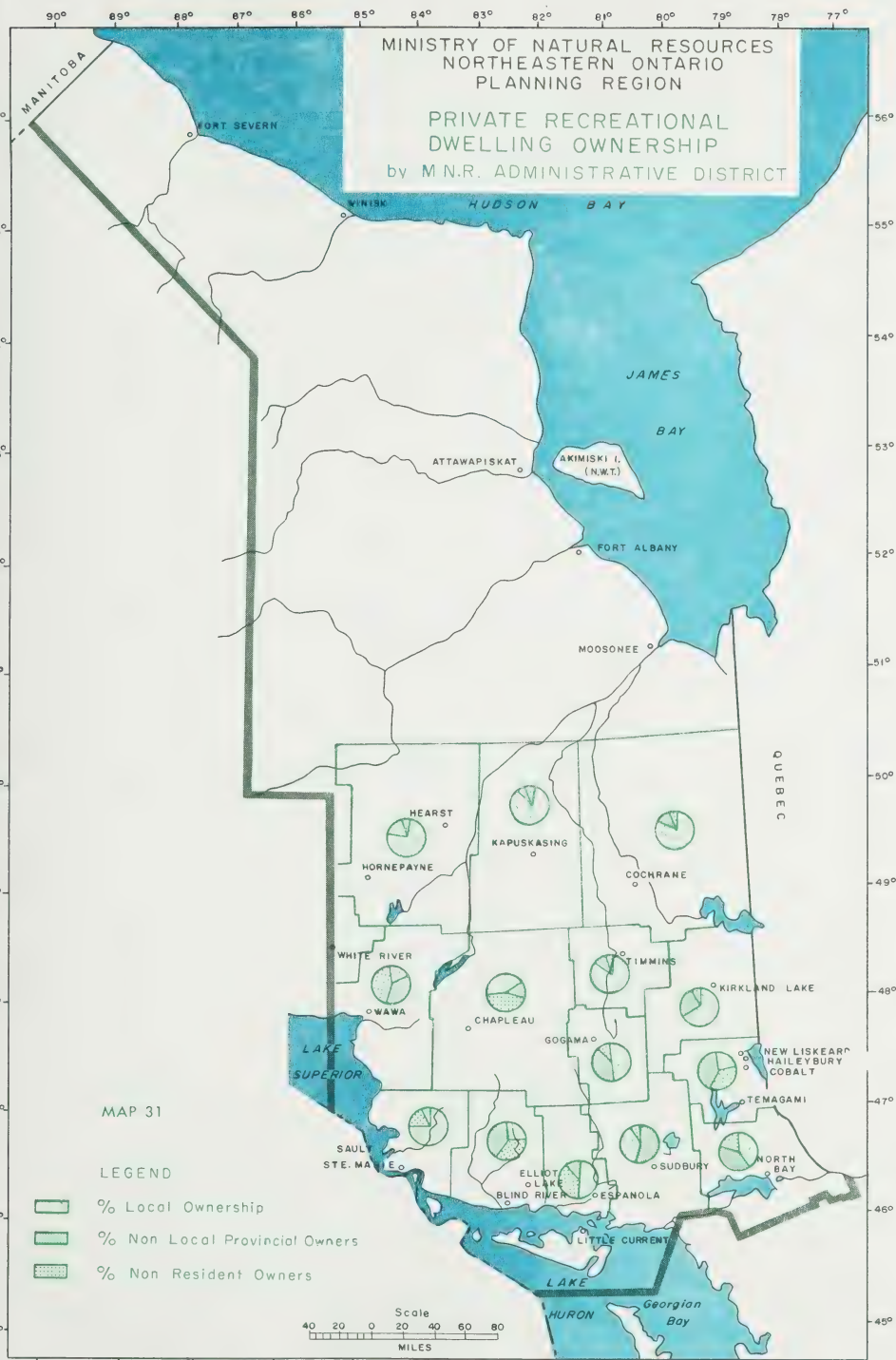


TABLE 30

OWNER ORIGIN FOR PRIVATE RECREATION DWELLINGS*
NORTHEASTERN PLANNING REGION

OWNER ORIGIN	NORTHERN REGION		NORTHEASTERN REGION		TOTAL NORTHEASTERN ONTARIO	
Local Residents < 161 km (100 miles)	2,957	72.7%	5,432	41.1%	8,389	56.9%
Non-Local Residents > 161 km (100 miles)	602	14.8%	4,018	30.4%	4,630	22.6%
Non-Ontario Residents	508	12.5%	3,767	28.5%	4,275	20.5%
TOTAL	4,067	100.0%	13,217	100.0%	17,284	100.0%

Source: Ministry of Natural Resources Land Tax Records, 1973

* Unorganized townships

population of the urban centres of the Planning Region would be in the order of 16,000 families seeking cottages. (Seventy-four percent of the Regional population of 560,000 is in urban areas and 16 percent of the households are seeking a cottage). Assuming by the year 2000 that there is a population of 860,000 within the Planning Region, approximately 25,000 additional cottages would be required to satisfy the demand.

Although it is difficult to predict the cottage demand from Southern Ontario and from outside of the Province, the demand is expected to increase.

Another important and dynamic influence affecting the magnitude of cottage demand is the cost. If the cost of providing land and constructing recreational dwellings continues to rise, as indications are that it will, fewer people will be seeking land for private recreational dwellings.

F. COMMERCIAL RECREATION

Commercial recreation is defined as those recreational facilities or areas which are privately owned and operated on a profit making basis by providing recreational opportunities or facilities for a fee.

Commercial recreation thus encompasses tourist operations such as motels, lodges, resorts, campgrounds, youth camps, outpost camps as well as ski hills, marinas, golf courses, etc.

a) Supply

At present, commercial tourist establishments are largely dependent upon accessibility to the motoring public. For this reason

most establishments are found either in or closely adjacent to the major highway corridors throughout Northeastern Ontario. Most development has occurred in the southern part of the Planning Region with the tourist vacation areas of Algoma, Nipissing, Sudbury and Timiskaming accounting for approximately 69 percent of the tourist accommodation available in Northeastern Ontario¹. Within the Northeastern Planning Region there are approximately 1,145 commercial establishments which offer accommodation (commercial cabins and cottages, lodges and resorts, youth resort camps, as well as hotels and motels) (Table 31).

The tourist accommodation establishments, not providing on-highway service functions, are largely dependent upon the summer season for their income. To encourage a longer stay, most off-highway establishments offer both fishing and hunting vacation packages. The convention business is also promoted, but this has been more successful in the larger centres of Sault Ste. Marie, Sudbury, North Bay and Timmins.

Vacations away from the more intensely developed areas are largely the concerns of the fly-in wilderness outfitter. Forty-nine fly-in air service bases occur in the Planning Region (Table 32).

Private tent and trailer parks are found mainly adjacent to the more heavily travelled highways in the area. Most of these parks are unable to compete with provincial parks and provide spillover accommodation only. In some cases, however, larger commercial

¹From Ontario Ministry of Industry and Tourism.

campgrounds are being developed which offer an attractive alternative to provincial parks. There are approximately 156 commercial tent and trailer campgrounds in the Planning Region (Table 33).

The excursion train rides offered by the Algoma Central Railway and the Ontario Northland Railway are popular. In 1974, the Polar Bear Express had 34,650 passengers, while the Algoma Central Railway's Agawa Tour had approximately 103,740 passengers.

b) Employment

In 1974, there were an estimated 6,500¹ people employed on both a permanent and part-time basis in year-round commercial tourism operations within Northeastern Ontario. Another 3,800¹ people are estimated to be employed on a permanent or part-time basis in seasonal commercial tourist operations.

c) Demand

The demand for commercial recreation accommodations and attractions in Northeastern Ontario is expected to increase for the following reasons:

1. Better transportation facilities producing more mobile tourists.
2. Overcrowding in southern tourist centres resulting in a spillover into Northeastern Ontario.
3. Increasing demand for extensive forms of recreation in less developed areas, especially for fishing, hunting, canoeing and camping.
4. Continued demand upon driving for pleasure trips and a Regional road network permitting circular tours.

¹Personal Communication, Ministry of Industry & Tourism, Sudbury.

NOTE: The above statistic also includes the Parry Sound Administrative area.

TABLE 31

NON-URBAN * COMMERCIAL ESTABLISHMENTS OFFERING ACCOMMODATION IN THE
NORTHEASTERN PLANNING REGION

<u>DISTRICT</u>	<u>COMMERCIAL CABINS AND COTTAGES</u>	<u>LODGES AND RESORTS</u>	<u>YOUTH RESORT CAMPS</u>	<u>HOTELS AND MOTELS</u>
Hearst	26	-	-	10
Kapuskasing	7	3	-	24
Cochrane	13	-	-	18
Timmins	10	-	7	9
Kirkland Lake	34	12	9	54
Gogama	13	1	-	3
Chapleau	20	25	3	10
Moosonee	13	2	2	-
Wawa	19	23	-	22
Sault Ste. Marie	43	11	3	20
Blind River	45	13	7	29
Espanola	90	26	3	36
Sudbury	30	38	-	46
North Bay	117	39	6	34
Temagami	34	35	13	20
Geraldton (portion)	2	1	-	-
Terrace Bay (portion)	-	-	-	-
White River (portion)	4	4	1	3
TOTAL PLANNING REGION	<u>520</u>	<u>233</u>	<u>54</u>	<u>338</u>

* Does not include commercial establishments in: urban area of Timmins, North Bay, Sault Ste. Marie or Sudbury.

Source: Ministry of Natural Resources, 1976.

TABLE 32

COMMERCIAL FLY-IN SERVICES AND OUTPOST CAMPS IN THE
NORTHEASTERN PLANNING REGION

<u>DISTRICT</u>	<u>OUTFITTERS & FLY-IN SERVICES</u>	<u>OUTPOST CAMPS</u>
Hearst	2	25
Kapuskasing	2	20
Cochrane	9	56
Timmins	4	1
Kirkland Lake	2	7
Gogama	2	23
Chapleau	3	88
Moosonee	1	5
Wawa	3	44
Sault Ste. Marie	2	10
Blind River	2	28
Espanola	1	10
Sudbury	2	8
North Bay	2	7
Temagami	2	14
Geraldton (portion)	5	7
Terrace Bay (portion)	-	-
White River (portion)	5	11
TOTAL PLANNING REGION	<u>49</u>	<u>364</u>

Source: Ministry of Natural Resources, 1976

TABLE 33

NON-URBAN^{*}COMMERCIAL TENT & TRAILER CAMPGROUNDS IN THE
NORTHEASTERN PLANNING REGION

<u>DISTRICT</u>	<u>COMMERCIAL TENT AND TRAILER CAMPGROUNDS</u>
Hearst	2
Kapuskasing	2
Cochrane	4
Timmins	8
Kirkland Lake	15
Gogama	2
Chapleau	4
Moosonee	-
Wawa	14
Sault Ste. Marie	23
Blind River	8
Espanola	19
Sudbury	18
North Bay	31
Temagami	4
Geraldton (portion)	-
Terrace Bay (portion)	-
White River (portion)	2
TOTAL PLANNING REGION	156

* Does not include commercial establishments within the urban area of: Timmins, North Bay, Sault Ste. Marie or Sudbury.

Source: Ministry of Natural Resources, 1976.

d) Tourism - Non-Residents

The most important non-resident tourist market for Northeastern Ontario is the United States. In the summer of 1969, an inventory was conducted of the tourist behaviour of American car visitors to Ontario¹. The study determined that approximately 140,300 visits², or 14 percent of the total American trips, to Ontario lasting more than one day had destinations to Northeastern Ontario. Of the total destinations recorded, Northeastern Ontario was second in popularity (Table 34).

The majority (77 percent) of American tourists visiting Northeastern Ontario cited outdoor recreation activities as the major reason for their visit. The two most important reasons defined for the trip were: i) hunting and fishing, and ii) camping and tenting (Table 35).

The average expenditure per vehicle party was determined in the 1969 survey to be \$148.54. This average expenditure is the second highest recorded for the ten Ontario economic regions identified (Table 36).

e) Tourism - Provincial Residents

During the period May 1973 to May 1974, over 10,000 selected Ontario residents were interviewed to determine resident tourism and recreation behaviour. Individuals sampled were questioned about their participation in various recreation activities as well

¹Department of Tourism and Information, United States Auto Exit Study, Summer, 1969, Report No. 56, Toronto, November 1971.

²The United States Auto Survey defined the average party size staying more than one night and visiting Northeastern Ontario to be 3.15 in the summer of 1969.

TABLE 34

SUMMER 1969 - FINAL DESTINATION OF AMERICAN VISITS
STAYING MORE THAN ONE NIGHT BY ECONOMIC REGIONS

<u>ECONOMIC REGION</u>	<u>NO. OF VISITS</u>	<u>PERCENT OF VISITS</u>
Niagara	402,800	39%
NORTHEASTERN ONTARIO	140,300	14%
Eastern Ontario	111,700	11%
Metropolitan Toronto	99,300	10%
Lake St. Clair	89,800	9%
Lake Ontario	69,700	7%
Georgian Bay	31,400	3%
Northwestern Ontario	28,600	3%
Lake Erie	19,100	2%
Upper Grand River	26,100	2%
	<hr/> 1,018,000	<hr/> 100%

Source: Department of Tourism and Information, United States Auto Exit Study, Summer 1969, November 1971.

TABLE 35

MAIN REASON FOR VISITING NORTHEASTERN ONTARIO

<u>MAIN REASON</u>	<u>PERCENT OF RESPONDENTS TO NORTHEASTERN ONTARIO</u>
Hunting and fishing	22%
Camping and tenting	22%
Spend time at a vacation spot	14%
Sightseeing away from cities and towns	13%
Stay at own summer place	5%
Boating and other outdoor activities	1%
	<hr/> 77%

Source: Department of Tourism and Information, United States Auto Exit Study, Summer 1969, November 1971.

TABLE 36
AVERAGE EXPENDITURES BY ECONOMIC REGION

<u>ECONOMIC REGION</u>	<u>AVERAGE</u>
Lake Ontario	\$ 152.75
NORTHEASTERN ONTARIO	148.54
Metropolitan Toronto	147.80
Upper Grand River	116.70
Eastern Ontario	110.61
Georgian Bay	109.36
Lake Erie	81.81
Northwestern Ontario	69.09
Niagara	49.22
Lake St. Clair	<u>13.38</u>
TOTAL VOLUME	\$ 61.36

Source: Department of Tourism and Information, United States Auto Exit Study, Summer 1969, November 1971.

as the kinds and destination of any recreational trips that they may have taken during a specified time period. In January 1974, the first progress report for the sample period May-August 1973 was released by the Tourism and Outdoor Recreation Planning Study Committee. Although the preliminary results may reflect a seasonal bias, they do reveal general patterns of tourism and recreation behaviour.

The questionnaire responses indicate that within the province the private commercial campgrounds provide slightly fewer opportunities for camping than do the publicly owned and operated facilities (Table 37). Questions related to the destination of vacation trips revealed that Northern Ontario was the third most popular vacation destination (Table 38). All of Southern Ontario is within a day's drive of the Planning Region.

f) Trends

The trends in commercial tourism will have an impact upon the Ministry of Natural Resources' programs.

Many commercial recreation operations such as lodges and outpost camps have based their operation primarily on the fishing and hunting activities. In certain areas within the Planning Region increased public use of the fish and wildlife resources and increased accessibility to traditionally remote areas is threatening the viability of existing tourist operations.

The more popular fish and game species, such as lake trout and moose, are showing indications of being overutilized in certain

TABLE 37
PERCENT PARTICIPATION BY JURISDICTION FOR CAMPING IN ONTARIO

Provincial and Regional	45.1
Private Commercial	40.5
Crown Land	14.4

Source: Tourism and Outdoor Recreation Planning Study, Ontario Recreation Survey, Progress Report No. 1, January 1974.

TABLE 38
MAIN DESTINATION OF VACATION TRIPS

<u>VACATION DESTINATION</u>	<u>PERCENTAGE OF TOTAL VACATION TRIPS</u>
Outside Ontario	47%
Georgian Bay	14%
NORTHERN ONTARIO	10%
East Lake Ontario, Kingston, Peterborough	8%
St. Lawrence and Ottawa	5%
Southern Ontario	5%
West Lake Ontario	5%
Metropolitan Toronto	3%
Unspecified	3%
	<hr/> 100%

Source: Tourism and Outdoor Recreation Planning Study, Ontario Recreation Survey, Progress Report No. 1, January 1974.

areas. Thus, future commercial recreation and tourist facilities should be structured to provide a wide range of recreational activities rather than being dependent on the fish and wildlife resources.

The winter recreation activities such as snowmobiling, cross-country skiing and downhill skiing, are also experiencing growing popularity and will require additional facilities throughout the accessible portions of the Planning Region.

Because of the relatively high number of tourist attractions, the following areas are expected to undergo increasing pressure for tourist accommodation and facilities:

1. Lake Nipissing
2. The North Channel of Lake Huron
3. Highway 17 corridor north of Sault Ste. Marie to Wawa
4. Manitoulin Island
5. Lake Temagami area
6. Kirkland Lake - Highway 11 corridor
7. Moosonee

Large scale tourist developments which have been proposed for parts of the Planning Region are: four seasons recreation complexes at both Maple Mountain and King Mountain; a large provincial recreation area or a large National Park development on Manitoulin Island involving Cockburn Island; and a National Park in the Pukaskwa area (just west of the Planning Region).

G. FISH AND WILDLIFE ORIENTED RECREATION

a) Wildlife

Wildlife oriented recreation will be discussed in terms of two kinds of recreational opportunities: viewing and hunting.

1. Recreational Viewing Opportunity

Although presently underutilized, wildlife viewing is becoming increasingly important as a recreational opportunity in Northeastern Ontario.

Some of the wildlife available for viewing are:

- (i) Big game: moose, deer, black bear, polar bear, woodland caribou.
- (ii) Furbearers: beaver, otter, fisher, marten, muskrat, coloured fox, timber wolf, coyote, lynx, weasel, red squirrel, mink, racoon, arctic fox.
- (iii) Small game: ruffed grouse, spruce grouse, sharptail grouse, woodcock, willow ptarmigan, snowshoe hare.
- (iv) Waterfowl: geese - Canada, blue, snow, bunt. Ducks - black mallard, blue-winged and green-winged teal, greater and lesser scaup, bufflehead, golden-eye, merganser, pintail, widgeon, wood duck, scoter, ring-neck.
- (v) A variety of raptors such as red-tailed hawk, broad-winged hawk, rough-legged hawk, sparrow hawk, peregrine falcon, merlins, snowy and great horned owls, osprey, golden eagle.
- (vi) A diverse variety of migratory and non-migratory passerine and shore birds.

The potential for viewing of most species of wildlife listed is generally good throughout the Planning Region. The potential for waterfowl viewing in the Hudson Bay Lowlands is particularly noteworthy.

2. Recreational Wildlife Hunting

Of the species present within the Planning Region, the following are the animals hunted:

- Big game - moose, deer, black bear
- Small game - ducks, geese
- grouse, ptarmigan
- woodcock, snipe
- snowshoe hare
- red fox

(i) Present Use and Economic Value

Of all species hunted in Northeastern Ontario, ruffed grouse supplied the largest number of user days of hunting, approximately 602,600 in 1973 (Table 39).

The Planning Region generated over 417,000 user days of moose hunting, over half of the provincial total, with an expenditure of some \$10 million. Deer hunting provided 51,600 hunting days of recreation, ten percent of the provincial total, with a resulting gross expenditure by 10,800 licenced hunters of \$1.4 million. All forms of big and small game hunting throughout the Planning Region accounted for some 1.26 millions of user days and expenditures of \$13.8 million, equivalent to 32 percent and 22 percent of the respective provincial totals (Table 39).

In 1973, most of the non-resident hunters hunted in the districts of Chapleau (946), Wawa (776), Cochrane (553), Blind River (482), Hearst (401) and Kirkland Lake (374).

TABLE 39

WILDLIFE RESOURCE USE - 1973 - NORTHEASTERN PLANNING REGION

<u>SPECIES</u>	<u>NO. OF HUNTERS</u>	<u>RECREATION DAYS</u>	<u>EXPENDITURE</u>	<u>HARVEST</u>
BIG GAME:				
Moose	53,454	417,661	\$ 10,048,833	5,910
Deer	10,807	51,614	1,432,332	2,139
Bear	<u>6,921</u>	<u>38,572</u>	<u>1,498,898</u>	<u>1,558</u>
TOTAL BIG GAME	71,182	507,847	\$ 12,980,063	9,607
SMALL GAME:				
Ruffed Grouse	50,439	602,616	\$ n/a	606,878
Woodcock	1,743	12,643	n/a	12,795
Geese	3,310	16,008	n/a	7,187
Ducks	<u>14,999</u>	<u>124,901</u>	<u>n/a</u>	<u>138,265</u>
TOTAL SMALL GAME	70,491	756,168	\$ 848,307	765,125
TOTAL FOR PLANNING AREA	141,673	1,264,015	\$ 13,828,370	774,732
TOTAL FOR PROVINCE	425,421	3,932,089	\$ 63,687,045	2,378,266
PLANNING AREA AS PERCENT OF PROVINCIAL TOTAL	33.3%	32.1%	21.7%	32.6%

Source: 1973 Hunt Report, 1972 Small Game Survey

The 1973 hunt harvested a total of 5,910 moose. This is considered above the sustained yield harvest for the area under existing management conditions. The largest harvest of moose occurred in the Kirkland Lake District with Cochrane, Chapleau, Hearst, Sudbury and North Bay Districts also incurring a heavy harvest rate of over 400 animals. When considering the number of hunters, Kirkland Lake District again leads the list with 8,608 hunters, while other districts with large numbers of hunters were Chapleau (5,429), Temagami (4,140), Cochrane (3,940), North Bay (3,918) and Sudbury (3,878).

The northerly limits of deer range occur in the southern portion of this Planning Region. The deer hunt is, therefore, oriented to the Highway 17 corridor, with Espanola and North Bay Districts accounting, in 1973, for the largest harvest, 1,463 deer (combined), and the largest number of hunters, 6,990 (combined). The only other districts reporting deer hunting were Sault Ste. Marie, Blind River and Sudbury. A total of 2,139 deer were harvested within the Planning Region in 1973.

In the fall of 1972, and in the spring of 1973, the highest harvest rates for black bear occurred in the districts of Kirkland Lake (532), Blind River (305), North Bay (221), and Chapleau (216), with most other districts reporting less than 100 bears harvested. Bear hunting is far more popular with the non-resident hunter than with the Ontario hunter. Of the 38,672 user days of hunting for black

bear, 87 percent were generated by non-residents who also accounted for 88 percent of the total kill of 1,558 black bears (Table 39).

The small game statistics, as shown in Table 39, make no allowance for hunting showshoe hare and red fox. Inclusion of rabbit would probably significantly increase the small game recreation days supplied by the Region.

The following species are ranked in terms of hunter utilization for the Planning Area: Ruffed grouse, moose, ducks, deer and bear. The Northeastern Planning Region supplied approximately 32 percent of the provincial total of the recreation days and harvest of these wildlife species.

Waterfowl hunting by hunters and natives along the Hudson Bay and James Bay coastlines accounted in 1975 for a harvest of 28,600 geese and 5,600 ducks. The native peoples of the area have harvested caribou on an average rate of 86 animals per year between 1968 and 1973 and the populations appear stable.

(ii) Resource Constraint

a) Moose

Moose management areas are being established within the Planning Region for which the harvest levels will be set. Hunter control, in one form or another, may have to be instituted if the species population is to be maintained at the carrying capacity level. Based

upon the participation of moose hunters in the 1976 hunt and the projected number of hunters for 1977, the Region can expect an additional 20 percent demand on this species. However, under the present management conditions, total harvest for the area is recommended at 4,216 animals, a reduction of 28.7 percent from the 1973 harvest level.

b) Black Bear

Black bear rates high as a big game species with increasing value being placed on this species by the hunter and viewer. Bear can be harvested under bear, deer, moose and trapping licences. As such, each deer or moose hunter and trapper is a potential bear hunter as well. Effective bear management will not be possible until better management data is available to define sustained yield. The status of the bear as a nuisance is changing, with the bear gaining popularity as a big game animal.

c) Deer

The major factor preventing increases in the deer population is hard to isolate, although winter and summer range quality is critical. Management programs designed to ultimately increase deer hunting opportunities should be directed towards improving range quality and quantity.

d) Small Game and Waterfowl

The population of small game of this Region, such as ruffed grouse and hare, is not seriously affected by hunting but is more dependent on a biological cycle. Many species of game and waterfowl are underutilized and occur throughout most of the Planning Region.

Continual long term monitoring and management programs are needed for the major waterfowl areas, along with environmental and development regulations to protect and manage this significant resource. This is especially the case for the internationally important waterfowl nesting and staging areas in the Hudson Bay Lowlands. Marsh habitat and staging areas for waterfowl throughout the Planning Area will have to be defined and protected from development and demands for incompatible land use.

(iii) Future Demand

The demand for hunting opportunity is increasing in all areas at an accelerated rate. As an example, participation in moose hunting has increased tenfold since 1955 (from 10,000 to 100,000 hunters on a provincial basis), and preliminary results of the Ontario Recreation Survey indicate that twice as many people would like to go moose hunting given the opportunity.

Habitat deterioration, increased access, and over-harvest of moose has resulted in declining herds, with some areas

more heavily affected than others. A restrictive program has been necessary in order to reverse the decline. It is the objective to increase hunting opportunity for moose in the future when the herds have been re-established.

Increases are evident as well in deer and small game hunters. Participation in deer hunting doubled in Ontario between 1946 and 1967. While demand increased within the Region, a complex interaction of factors, such as maturing habitat, comparatively large harvests and very severe winters, caused a marked decline in deer herds.

Hunter distribution is governed by the distance from population centres and the availability of access. Thus, resident hunting pressure has traditionally been greatest in Northeastern Ontario in the Ministry of Natural Resources Districts of Cochrane, Kirkland Lake, North Bay and Sudbury. The southern portions of the Planning Region are also particularly favoured by non-residents for moose and bear.

With restrictive measures in effect for moose and deer, it is expected that increased emphasis will be placed on small game and bear. This is exemplified presently in the large number of non-resident bear hunters in areas within close proximity to the United States border.

b) Sport Fishing

1. Present Use

The fish resources of the Planning Region presently accommodate approximately 8.8 million user days of angling (21.2 percent of provincial total) of which 6.7 million days (16.1 percent of provincial total) and 2.1 million days (5.1 percent of provincial total) are accommodated in the Northeastern and Northern Administrative Regions respectively.

The Administrative Districts having the greatest angling pressure are North Bay, Temagami, Espanola, Sault Ste. Marie, Sudbury, Blind River and Chapleau. These areas are located in the southern more populated portion of the Region and adjacent to the heavily populated areas of both Southern Ontario and the United States (Table 40).

Angling is an important form of outdoor recreation for local residents. This is substantiated by the fact that 30 percent of the Northeastern Administrative Region and 32 percent of the Northern Administrative Region residents participate in this activity. The importance of resident angling by territorial district is illustrated in Table 41 which indicates the percentage of the total male resident population of each territorial district who participated in angling.

Angling is an activity that is actively pursued throughout all seasons of the year (Table 41). From 47 percent to 58 percent of anglers by area were active in winter as well as the open water season, (95 percent of the anglers participate respectively in open water angling).

TABLE 40

DISTRIBUTION OF TOTAL ANGLING PRESSURE WITHIN
NORTHEASTERN PLANNING REGION

<u>DISTRICT</u>	<u>TOTAL ANGLER DAYS (THOUSAND)</u>	<u>PROVINCIAL TOTAL</u>	<u>% PLANNING REGION TOTAL</u>
<u>NORTHERN ADMINISTRATIVE REGION:</u>			
Chapleau	463.4	1.1	5.3
Cochrane	252.5	0.6	2.9
Gogama	252.5	0.6	2.9
Hearst	295.1	0.7	3.4
Kapuskasing	168.3	0.4	1.9
Kirkland Lake	336.6	0.8	3.8
Moosonee	42.6	0.1	0.5
Timmins	<u>336.6</u>	<u>0.8</u>	<u>3.8</u>
TOTAL NORTHERN ADMINISTRATIVE REGION	2,147.6	5.1	24.4
<u>NORTHEASTERN ADMINISTRATIVE REGION:</u>			
Blind River	505.0	1.2	5.7
Espanola	715.9	1.7	8.1
North Bay	1,683.2	4.1	19.1
Sault Ste. Marie	631.8	1.5	7.2
Sudbury	1,389.2	3.4	15.8
Temagami	1,389.2	3.4	15.8
Wawa	<u>336.6</u>	<u>0.8</u>	<u>3.8</u>
TOTAL NORTHEASTERN ADMINISTRATIVE REGION	6,650.9	16.1	75.6
 TOTAL PLANNING REGION	 <u>8,798.5</u>	 <u>21.2</u>	 <u>100.0</u>

Source: Ontario Angling, Facts & Figures, 1975.

TABLE 41

PERCENTAGE OF RESIDENT ADULT MALES
 ANGLING BY AREA AND SEASON

<u>TERRITORIAL DISTRICT</u>	<u>% ADULT MALES ANGLING</u>	<u>% ANGLERS (ADULT MALES) WINTER FISHING</u>
Cochrane	35	51
Algoma	39	57
Manitoulin	23	50
Nipissing	59	47
Sudbury	35	48
Timiskaming	65	58

Source: Fisheries Branch, Division of Fish and Wildlife 1970

Total expenditures generated by resident anglers in 1970 were estimated to be about \$34.9 million, of which \$7.6 million occurred within the Northern Administrative Region, while \$27.2 million occurred within the Northeastern Administrative Region.

The fish resources of the Planning Region are also significant in the provision of angling opportunities to non-residents. In 1970, of the total 8.8 million angling days provided by the Planning Region, 15.2 percent (1,391,500 angler days) were those of non-resident anglers. This accounts for 25.3 percent of the non-resident angling in the province. The significance of non-resident angling within the Region is illustrated in Table 42.

The Ministry of Natural Resources districts located most southerly within the Planning Region are experiencing the greatest amount of non-resident angling.

Yellow pickerel, northern pike and bass are considered the backbone of the tourist industry while yellow pickerel, pike, lake trout and brook trout are the species desired by resident anglers. Species such as yellow perch and smallmouth bass have local significance on Manitoulin Island. Bass and maskinonge are an attraction in the Nipissing District.

The 1970 gross expenditure data and distribution of non-resident spending are presented in Table 43. While the territorial district of Timiskaming had the highest average expenditure per angling day (\$29.30), Sudbury showed the highest total expenditure as

TABLE 42

DISTRIBUTION OF NON-RESIDENT ANGLING PRESSURE WITHIN
NORTHEASTERN PLANNING REGION

<u>DISTRICT</u>	<u>NON-RESIDENT ANGLER DAYS (THOUSAND)</u>	<u>% OF PROVINCIAL NON-RESIDENT TOTAL ANGLER DAYS</u>	<u>% OF DISTRICT TOTAL ANGLER DAYS</u>
<u>NORTHERN ADMINISTRATIVE REGION:</u>			
Chapleau	126.5	2.3	27.3
Cochrane	5.5	0.1	2.2
Gogama	33.0	0.6	13.1
Hearst	88.0	1.6	29.8
Kapuskasing	11.0	0.2	6.5
Kirkland Lake	11.0	0.2	3.3
Moosonee	5.5	0.1	12.9
Timmins	<u>27.5</u>	<u>0.5</u>	<u>8.2</u>
TOTAL NORTHERN ADMINISTRATIVE REGION	308.0	5.6	-
<u>NORTHEASTERN ADMINISTRATIVE REGION:</u>			
Blind River	154.0	2.8	30.5
Espanola	181.5	3.3	25.4
North Bay	220.0	4.0	13.1
Sault Ste. Marie	88.0	1.6	13.9
Sudbury	187.0	3.4	13.5
Temagami	137.5	2.5	9.9
Wawa	<u>115.5</u>	<u>2.1</u>	<u>34.3</u>
TOTAL NORTHEASTERN ADMINISTRATIVE REGION	1,083.5	19.7	-
 TOTAL PLANNING REGION	 <u>1,391.5</u>	 <u>25.3</u>	 -

Source: Ontario Angling, Facts & Figures, 1975.

TABLE 43

NON-RESIDENT ANGLERS' EXPENDITURE DISTRIBUTION
NORTHEASTERN PLANNING REGION

<u>JUDICIAL DISTRICT</u>	<u>EXPENDITURES GENERATED (MILLION DOLLARS)</u>	<u>AVERAGE EXPENDITURE PER ANGLING DAY</u>	<u>PERCENT PROVINCIAL EXPENDITURE</u>
Cochrane	\$ 0.6	\$ 26.50	0.7
Algoma	7.6	21.20	8.2
Nipissing	2.7	22.40	2.9
Sudbury	10.8	28.50	11.7
Timiskaming	1.5	29.30	1.6
Manitoulin (insufficient sample)	_____	_____	_____
TOTAL	<u>\$ 23.2</u>	<u>\$ 25.90</u>	<u>5.0</u>

NOTE: Total expenditure of both residents and non-residents within the area is estimated to be approximately \$58 million.

Source: Non-Resident Angling Survey, 1970.

a result of more intensive angling pressure. Expenditures generated by non-residents who participated in angling while travelling in the Planning Region in 1970 were in the range of \$23 million.

2. Constraints - Limitations

(i) The distribution of angling pressure across the Planning Region is not coincident with the pattern of productivity.

Approximately one-third of the inland waters in the Planning Region are considered inaccessible. Most of these waters are in the more productive northern areas; consequently, this portion of the fish resource tends to be generally underutilized because of less angling pressures. Conversely, the southern waters of the Planning Region tend to be overused because of greater accessibility, increased proximity to major urban areas and biologically less productive waters.

(ii) Ineffective utilization of the fish resource occurs in part because of the failure to harvest waters from a fisheries community concept. Harvests of "desirable" species, such as trout and walleye, are often greater than their respective sustainable yields. Conversely, harvests of "less desirable" species, such as suckers, alewife and panfish, usually do not even approach their respective sustainable yields.

(iii) The large number of small lakes in the Planning Region (of the 183,000 lakes, only 213 are larger than 1,000 hectares (2,471 acres)) tend to disperse management attention and reduce effectiveness because of the inability to adequately assess the status of the many separate fish communities.

(iv) Cultural eutrophication, usually in the form of domestic pollution (cities, cottages) or fertilizer run-off from agriculture, tends to adversely affect game fish species. As the Planning Region becomes more populated and developed, this problem is expected to increase.

Industrial pollution can destroy fish population through acute toxicity, decrease the productivity of fish populations because of degraded habitat or sub-lethal effects on fish themselves, or render fish unfit for human consumption. An array of industrial pollutants can be found in the Planning Region: sulphur dioxide fallout (Sudbury, Wawa); mercury (Lake Abitibi, Lake Timiskaming); wood fibre (Sturgeon River, Spanish River); radioactivity (Serpent River); and others. These array of contaminants are a significant constraint to the provision of fish resource.

(v) The depressed condition of the fish communities in Lakes Huron and Superior, especially the preferred lake trout, has seriously limited the development of additional angler opportunities. Greater levels of research and

monetary resources are required to generate a fish population in these waters that can be utilized by the angling public.

(vi) The introduction of exotic species often adversely affects the native fish community. Both in the Great Lakes and in many inland waters, this stress has often resulted in the evolution of new fish communities which are presently undesirable to the public. Such communities do not respond readily to a change to more preferred fish species. If a change is possible at all, significant investment of expenditure or new management strategies are required.

3. Future Demands and Potential for Expansion

Objectives formulated by Fisheries Branch in recognition of future demands for angling have indicated the need for this Planning Region to accommodate an additional 7.5 million user-days of angling by 1991. This represents an 85 percent increase over the present use of 8.8 million angler days.

The annual sustained biological yield from inland waters has been estimated at 5,261,311 kg (11.5 million pounds) for all species. Present harvest probably approaches this sustained yield estimate.

In view of this, and the current constraints on managing existing inland waters, it is unlikely that future demand can be met at present success rates or for presently preferred species.

Significant reductions, unquantified at present, have occurred both in total production of socially valued species of fish and in quality of fishing experiences. New and improved management technology and increased funding are required to reverse these trends.

4. Significant and Critical Areas

Of high priority for fish production are the larger bodies which justify the development of an active and effective management program. As a general guide, those areas presently most accessible and most popular must receive immediate priority. Projections of the future demand for sport fishing indicate that action soon will be required (preventive management) on the large lake systems presently too remote for intensive use.

These areas in tentative order of priority are as follows:

- (i) Lake Huron
- (ii) Lake Superior
- (iii) Lake Nipissing
- (iv) Lake Temagami
- (v) Lake Timiskaming
- (vi) Lake Manitou
- (vii) Lake Wanapitei
- (viii) Lake Kabinakagami
- (ix) Lake Abitibi

Identification of other aquatic environments which produce varying types of sport fishing experiences and which are essential to maintain the traditional species most

highly sought by anglers, include at least the following groups of waters:

- (i) Lake trout lakes - rated average to excellent.
- (ii) Streams tributary to the Great Lakes providing spawning and rearing habitat for salmonids.
- (iii) Warm water communities stressing the pickerel dominant and pickerel-pike dominant type - rated average to excellent.
- (iv) Lakes of current and potential importance to the supply of angling through stocking with hatchery fish.
- (v) Lakes less than 2,023 hectares (5,000 acres) and stream and river systems with high production-self-sustaining brook trout fisheries.
- (vi) Lakes required to hold brood stock for egg supplies to the provincial hatchery system.
- (vii) Special research reserves.
- (viii) Unique fishery populations - e.g. Sutton-Hawley System and Aurora Trout.

4. COMMERCIAL FISHING

Sport fishing and commercial fishing are intimately associated with one another in that they often occur together on the same water bodies and in cases they seek the same fish species. Commercial fishing is most appropriately discussed in three phases: the commercial food fishery of inland waters; the commercial food fishery of Great Lakes waters; and the commercial bait fishery.

A. NORTHEASTERN INLAND WATERS

Currently, the commercial food fishery on inland waters is a small industry located primarily in the Northern Administrative Region.

Catches in recent times (Table 44) have averaged some 55,792 kg (123,000 lbs.) at a value of \$52,000. As many as 22 operators have

TABLE 44

GENERALIZED SUMMARY OF COMMERCIAL FISH HARVESTS*
NORTHEASTERN INLAND WATERS

DISTRICT	NO. MEN	SPECIES TAKEN	CATCH		DOLLAR VALUE
			KILOGRAMS	(POUNDS)	
Hearst	1	Northern pike	830	(1,830)	n/a
		Whitefish	897	(1,978)	n/a
			1,727	(3,808)	n/a
Kapuskasing	4	Yellow pickerel	324	(714)	\$ 654.50
		Northern pike	371	(818)	244.00
		Whitefish	10	(22)	6.50
		Sturgeon	2,012	(4,435)	5,278.30
		Caviar	18	(40)	176.50
			2,735	(6,029)	6,359.80
Cochrane	6	Saugers	614	(1,354)	321.00
		Suckers	9,457	(20,850)	4,017.00
		Perch	76	(167)	13.00
		Yellow pickerel	3,748	(8,262)	4,130.00
		Northern pike	3,007	(6,629)	1,618.00
		Whitefish	503	(1,108)	492.00
		Sturgeon	272	(600)	750.00
		Caviar	7	(15)	122.00
			17,684	(38,985)	11,463.00
Moosonee	7	Yellow pickerel	7,505	(16,546)	8,270.00
		Whitefish	5,708	(12,583)	5,587.00
		Sturgeon	539	(1,189)	766.00
			13,752	(30,318)*	14,623.00*
Timmins	1	Whitefish			n/a
Gogama	1				n/a
North Bay	2	Sturgeon, caviar, whitefish, herring	19,958	(44,000)	19,000.00
All other Districts	0				
TOTAL FOR NORTHEASTERN ONTARIO	22		55,855	(123,140)	\$52,000.00 ¹

* Data based on 5 year average 1966-1971 for Northern Region and 1968-1973 for Northeast Region.

¹ Approximate total.

Source: Fisheries Branch

participated in the industry. Currently there are but 8 operators engaged in the industry and catches are generally below 34,019 kg (75,000 lbs.).

The primary species harvested are sturgeon, northern pike, yellow pickerel and whitefish. Secondary species include sauger, sucker species and perch.

The waters that are currently being commercially fished are listed below by Administrative Districts:

Northern Region:

- | | |
|---|------------------------|
| a) Abitibi Lake | - Cochrane District |
| b) Abitibi River from Long Sault to Fraserdale | - Cochrane District |
| c) Mattagami River Sandy Falls to Poplar Rapids | - Cochrane District |
| d) Mattagami Lake | - Gogama District |
| e) Katodawa Lake | - Gogama District |
| f) Minisinakwa Lake | - Gogama District |
| g) Kenogaming Lake | - Gogama District |
| h) Kenogamissi Lake | - Timmins District |
| i) Nassan Lake | - Hearst District |
| j) Albany River | - Hearst District |
| k) Moose River | - Kapuskasing District |

Northeastern Region:

- | | |
|-------------------|----------------------|
| a) Lake Nipissing | - North Bay District |
|-------------------|----------------------|

B. GREAT LAKES WATERS

Commercial fishing on Lakes Huron and Superior represent an economically important industry. In 1973, 55 licenced fishermen fished in that part of Lake Superior falling within the Planning Region. The landed economic value of the commercial fishing in this portion of the

Lake Superior fishery in 1973 was about \$265,000. The value of present landings (1976) exceed one million dollars (Table 45).

Fifty licenced fishermen fished in the Northeastern Planning Region's portion of Lake Huron during 1973. The landed economic value of this fishery was \$311,600 in 1973. Present day values (1976) are similar (Table 45).

C. BAIT FISH

Except for the North Bay area, the bait fish industry in Northeastern Ontario is quite small. A breakdown by District is provided in Table 46. Currently, there are about 413 commercial bait fishermen in the Planning Region. The majority of these are part time operators. These bait fishermen comprise approximately one-fifth of the province's total. They harvest about 500,000 dozen bait fish annually with a landed value of \$300,000.

D. TRENDS

For Northeastern inland waters, the trends in the commercial fishing industry for the period 1966 to the present indicate a decline in the amount of fish being harvested. There is a corresponding drop in the total landed values of the catches and the number of persons employed.

Commercial fishing operations throughout the inland waters are thought to be declining for a number of reasons. Many species being of low market value require high volume harvests to be economical. The level of supply of desired species is low in certain areas, transportation and processing costs are increasing, competition exists with sport

TABLE 45

GENERALIZED SUMMARY OF COMMERCIAL FISH HARVEST
IN THE GREAT LAKES - DATA FROM 1973

LAKE SUPERIOR*

Number of operations	32
Number of men employed	55
Major species taken	lake trout, whitefish, herring, chub species
1973 estimated harvest	581,415 kilograms (1,281,800 pounds)
1973 economic value	\$ 265,000
1977 major species quota	952,544 kilograms (2,100,000 pounds)
1977 economic value of quota	\$1,400,000

* This data is for that portion of Lake Superior lying within the Planning Area.

LAKE HURON*

Number of operations	40
Number of men employed	50
Major species taken	whitefish, perch, sturgeon, chub species, menominee, suckers
1973 estimated harvest	371,696 kilograms (819,450 pounds)
1973 economic value	\$ 311,600

*Quotes are presently being developed for major fish species for that portion of Lake Huron lying within the Planning Region.

Source: Fisheries Branch

TABLE 46

SUMMARY OF BAIT FISH HARVEST BY DISTRICT*
NORTHEASTERN PLANNING REGION

<u>DISTRICT</u>	<u>NO. OF COMMERCIAL BAIT FISH LICENCES ISSUED</u>	<u>ESTIMATED HARVEST OF BAIT FISH (DOZEN)</u>	<u>ECONOMIC VALUE OF BAIT FISH</u>
<u>NORTHERN ADMINISTRATIVE REGION:</u>			
Hearst	14	4,616	\$ 3,462.
Kapuskasing	10	3,533	2,650.
Cochrane	10	6,845	5,134.
Timmins	12	35,414	26,561.
Kirkland Lake	45	36,991	27,743.
Gogama	20	6,803	5,102.
Chapleau	<u>15</u>	<u>10,351</u>	<u>7,763.</u>
TOTAL NORTHERN ADMINISTRATIVE REGION	126	104,553**	78,415.
<u>NORTHEASTERN ADMINISTRATIVE REGION:</u>			
Wawa	27	11,650	10,193.
Sault Ste. Marie	22	17,000	11,220.
Blind River	27	18,500	10,800.
Espanola	38	13,739	11,652.
Sudbury	68	43,892	44,000.
North Bay	126	271,995	122,398.
Temagami	<u>27</u>	<u>17,500</u>	<u>13,156.</u>
TOTAL NORTHEASTERN ADMINISTRATIVE REGION	335	394,276	223,419.
 TOTAL PLANNING REGION	 <u>461</u>	 <u>498,829</u>	 <u>\$301,834.</u>

* Based on 1972 data for Northern Region and 1973 data for Northeastern Region.

** Based on returns from 108 of the 126 fishermen licenced in 1972 in the Northern Region.

Source: Fisheries Branch

fisheries in some areas, and there are a limited number of accessible large bodies of water capable of sustaining high production fisheries.

The Great Lakes fishery is presently a viable and prospering industry. The total catch from Lake Superior has increased recently, primarily because of the presence of large populations of lightly exploited, highly valued, chub species. The North Channel fisheries has similarly increased in both the total catch and the total value of the catch in the past decade, primarily as a result of apparent increases in size and stability of whitefish populations.

The total annual catch from the Lake Huron and Georgian Bay fisheries has been declining in recent history and becoming increasingly more dependent on one species of fish, lake whitefish.

The bait fish segment of the commercial fishing industry has been on the upswing in recent years as a result of increasing angler demand.

E. POTENTIAL FOR EXPANSION

a) Northeastern Inland Waters

The annual sustained yield from inland waters has been estimated to be 5,216,311 kg (11.5 million pounds) of all species. It is felt that at least one-half of this potential is in the form of "commercial" species. It is further believed that the annual commercial harvest, potentially, can be increased significantly from the current 45,359 kg (100,000 pounds) mainly through the use of unexploited or lightly exploited non-game species.

This increase appears to be biologically feasible, but there are

a number of important constraints to achieve increased levels of commercial harvest. These are discussed below:

1. High transportation costs result in high costs of operation. There are very few large lakes in the Planning Region which lend themselves readily to commercial fishing in an annual long term basis. Generally the larger the water body, the more economical and feasible it is to operate a commercial fishery because of reduced transportation costs, and the increased stability and potential for fish production. Only ten water areas exceed 10,000 hectares (24,711 acres) in size and 203 exceed 1,000 hectares (2,471 acres). Together these water bodies account for approximately 809 thousand of the 2.75 million hectares (2 million of the 6.8 million acres) of water which can produce fish.
2. Occurrence of mercury and other pollutants eliminates certain areas (e.g. Lake Abitibi) from the production of valued species (e.g. yellow pickerel).
3. There would be significant social problems as a result of both real and imagined conflicts between sport and commercial interests over some species of fish.
4. Major changes in the licencing system and support legislation would be required.
5. At present, inadequate knowledge of lake ecosystems precludes full utilization of the resource.

6. Many commercial species of fish from inland waters may be reduced in saleability because of high parasite loads (e.g. herring in Lake Nipissing).

b) Great Lakes

It is estimated that the potential commercial harvest from that portion of Lake Superior within the Planning Region is in the order of 953,000 kg (2.1 million pounds) for the major commercial species. The industry is currently increasing catches in response to these potential yields. Increases in catch result from previously lightly exploited populations of chub species. Further potential for harvests of species such as sucker, smelt and other underutilized species are also considered possible.

The annual sustained yield potential for the Planning Area of Lake Huron is estimated by Fisheries Branch at 2,250,000 kg (4.96 million pounds). Approximately a 907,000 kg (2 million pound) harvest is feasible by the commercial fishery within the Planning Region. Increased harvests would have to be in the form of currently unutilized species such as smelts and sucker for which markets and processing would have to be developed.

c) Bait Fish

The potential for sustained harvest is considered to be substantially greater than the current harvest. At the present time, only easily accessible waters are being harvested for bait fish. An increase in harvest seems feasible. Improved handling and handling facilities would allow for more efficient use of the resource.

F. EMPLOYMENT

It is felt that increases in employment are feasible at all levels of the industry (with major increases at the secondary processing level). However, this is mainly dependent upon the resolution of market development problems with subsequent increases in the value of fish.

5. COMMERCIAL TRAPPING

A. THE FUR RESOURCE

Trappers within the Region in 1973-1974 harvested roughly one-third of Ontario's total yield of beaver, mink and otter, and approximately one-half of Ontario's marten, weasel and coloured fox crop. The Planning Region's harvest of lynx and bobcat exceeds 60 percent of the provincial harvest of these same species.

During the 1973-1974 season, a total of 136,506 pelts were marketed from animals trapped in the Region. Table 47 indicates the number of pelts harvested during the 1969/1974 trapping seasons.

B. EMPLOYMENT

In 1973-1974, there were 2,911 people engaged in trapping in North-eastern Ontario:

1,666 registered
840 resident (private land)
405 farmer or Indian on Indian Reserve

Trapping is a way of life for some and a form of recreation for others. It is estimated that trapping is the primary employment for less than five percent of the Region's trappers. For many people, especially in more remote areas, trapping provides a source of income and livelihood

for which there are few alternatives.

In 1973-1974, the Region supported the activities of 36 dealers including 31 "store dealers" and five travelling fur buyers. The largest "dealer" in the province, the Ontario Trappers Association, is situated within the Region in North Bay. This outlet currently handles one-half of the beaver caught in the province.

Major marketing points for the area are the Ontario Trappers Association in North Bay for the central and southern accessible portion of the Region. The Hudson Bay Company in Montreal is the marketing location for the northeastern portion of the Planning Region; while that portion of the Region lying west of Moosonee is marketed through the Hudson Bay Company offices in Winnipeg.

C. ECONOMIC VALUE

Within the Region the revenue ranges from \$0 to approximately \$22,000 per trapper. The size of the harvest and the total value of the harvest has increased from 1969 to 1974 (Table 47). Revenue to trappers was in the order of \$2.4 million in 1973-1974, with an average of \$825.00 per trapper.

Beaver was the most important species economically. The value of beaver and other species listed in the order of economic importance in 1973-1974 is shown in Table 48.

Direct revenue to the province is derived from the collection of royalties on certain pelts before export or tanning and in licence fees. The following is a summary of the provincial revenue for 1973-1974:

TABLE 47
NORTHEASTERN PLANNING AREA - SUMMARY OF TRAPPING - 1969-1974

TRAPPING SEASON	TOTAL PELTS TAKEN		PERCENT OF PROVINCE TOTAL	ECONOMIC VALUE-DOLLAR		PERCENT OF PROVINCE TOTAL
	PLANNING REGION	PROVINCE		PLANNING REGION	PROVINCE	
1969-1970	93,352	604,649	15.4	\$ 993,570	\$3,727,960	26.7
1970-1971	79,798	493,527	16.2	777,770	2,883,164	26.9
1971-1972	103,570	549,565	18.8	n/a	4,234,962	n/a
1972-1973	128,300	681,242	18.8	n/a	7,230,167	n/a
1973-1974	136,508	816,836	16.7	2,433,133	8,133,103	29.8

N/A - Not available

Source: Regional Trapping Reports

TABLE 48

ECONOMIC VALUE OF TRAPPING BY SPECIES IN
NORTHEASTERN ONTARIO

1. Beaver	\$ 1,381,328
2. Coloured Fox	242,107
3. Lynx	216,177
4. Marten	190,845
5. Otter	126,436
6. Muskrat	103,268
7. Mink	76,863
8. Fisher	48,497
9. Timber Wolf/Coyote	18,111
10. Raccoon	16,716
11. Other	12,783
	<hr/>
	\$ 2,433,133
	<hr/>

Source: Commercial Fur Reports,
Ministry of Natural Resources,
1974.

Royalties	\$ 82,551
Sale of trappers licences	7,000
Sale of dealers licences	<u>280</u>
Total	\$ 89,831

D. OTHER VALUE

A 1973 survey showed that some trappers utilize furbearers for personal food and dog food. It is estimated that the replacement value of such food was in the order of \$700,000 for the Planning Region during the 1973-1974 season¹.

E. CAPACITY

At present, most species are underharvested. Beaver populations are presently high and yet in 1973-1974, trappers in the Region harvested only 62 percent of their beaver quota. Quotas in some parts of the Region are not based on aerial inventory and are usually an underestimate of the harvestable beaver population.

It has been forecast that beaver populations will remain high for a period of perhaps five to ten years. However, with reduced logging along watercourses (i.e. more shoreline reserves) and a reduction in hot natural fires, the beaver population should gradually decrease in number of colonies as well as the mean colony size.

F. POTENTIAL FOR EXPANSION

A 100 percent increase in fur harvest appears biologically feasible in some portions of the Region and could occur if demand increases proportionately, management is intensified, trapping remains socially

¹ Commercial Fish and Fur Branch, Ministry of Natural Resources, 1974.

acceptable and trapping incentive increases.

It is expected that an increased harvest will be a result of increased trapper efficiency rather than an increase in the number of trappers. Any job increases in the fur industry will occur primarily in the processing sector. Where possible, however, full time trapping will be encouraged.

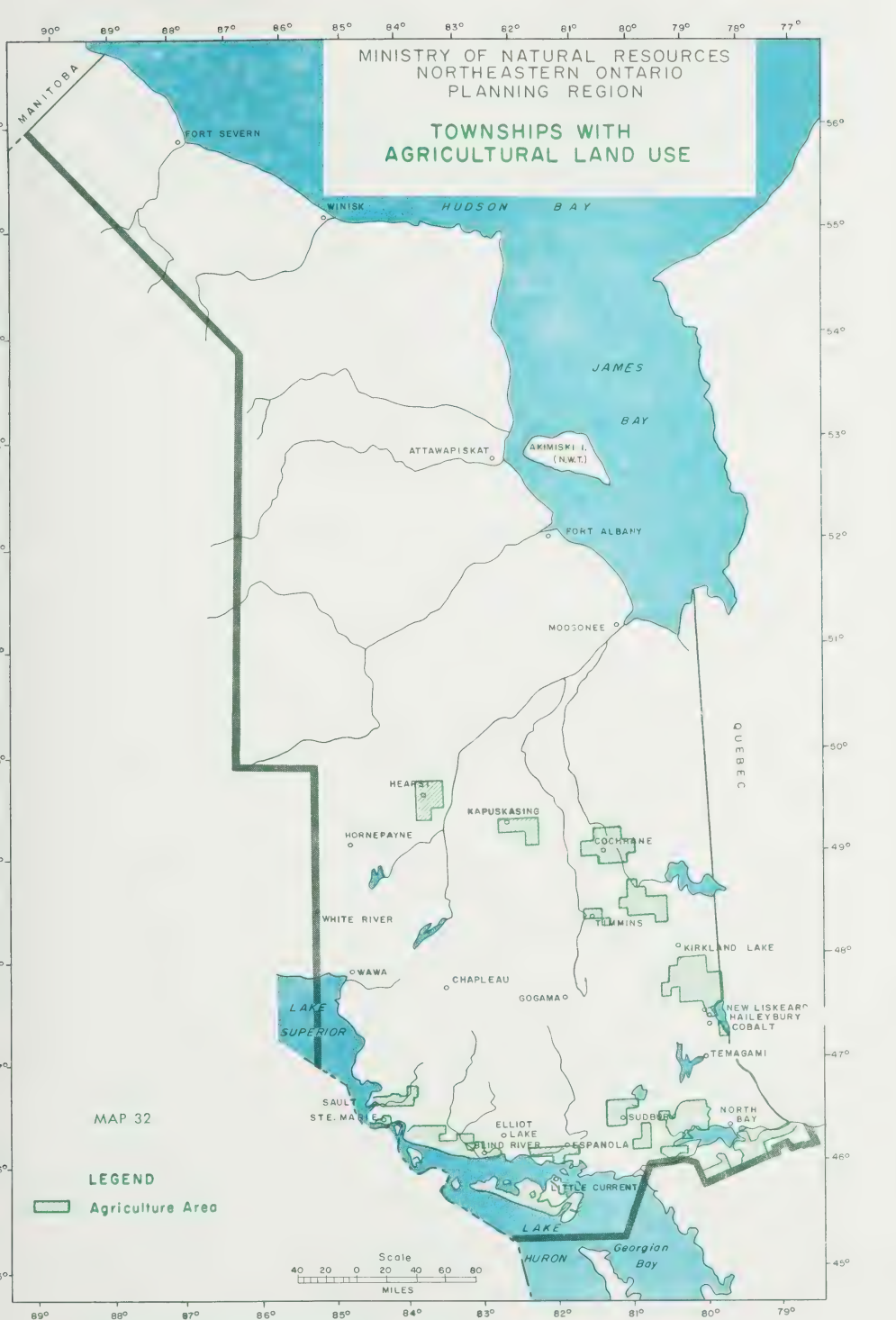
Although there are very few people presently using furbearers as food, a 500 percent increase appears feasible. However, there are social and economic constraints.

6. AGRICULTURE

A. PRESENT USE

Agriculture is an important use of land in Northeastern Ontario. The 1971 Census of Canada indicates that there were approximately 2,850 Census Farms involving 371,586 hectares (918,210 acres) in Northeastern Ontario. Of the land acreage of these farms, 154,823 hectares (382,575 acres) are improved agricultural land. The 1971 Census statistics also indicated that 66 percent of the total improved acreage was being cropped. Pasture acreage accounted for 26 percent of the improved agricultural land, and summer fallow and other forms of improved land for the remaining 8 percent. Timiskaming had the highest acreage of improved land, 49,074 hectares (121,264 acres) (Map 32).

At present, agricultural land in Northeastern Ontario is going out of production. Reasons for this trend vary but some of the reasons include better employment possibilities, higher transportation costs to market, fluctuating market place demands, competing land uses and, in



many cases the low productivity of agricultural lands. While the number of farms is decreasing rapidly, the remaining farms are, on an average, much larger an area and sell a greater value of agricultural products.

Agriculture in Northeastern Ontario is based largely upon beef and dairy production. Milk produced is consumed entirely within the Planning Region. Beef production is mostly a cow-calf operation in which calves are sold each fall.

The crops that are grown are mainly devoted to feed for livestock. The success of agricultural crops grown in Northeastern Ontario is largely dependent upon hardness to the climate. Corn, grown mostly for silage, reaches its most northerly limit in the southern sections of the Region. Oats, barley, mixed grains and hay are the crops having the largest acreage in the Planning Region. Market garden crops are limited in acreage and are grown for local consumption.

Approximately 58 percent, 216,764 hectares (535,635 acres) of the total farm land in the Region is unimproved land. Woodland accounts for 28 percent of this total, while unproductive lands such as rock land and wetlands comprise the remaining 30 percent. Manitoulin Census District reported the highest amount of unimproved agricultural land, 74,010 hectares (182,882 acres) which accounts for 76 percent of Manitoulin's total farm land (Table 49).

B. ECONOMIC VALUE

Of the 2,850 census farms in the Planning Region, 53 percent sold agricultural products valued at less than \$2,500. Another 16 percent

TABLE 49
USE OF FARM LAND BY CENSUS DIVISION

	TOTAL FARM LAND AREA	UNDER CROPS	PASTURE	SUMMER FALLOW	OTHER	IMPROVED		WOODLAND	OTHER	UNIMPROVED	
						TOTAL	%			TOTAL	%
Algoma	115,747	32,806	15,340	1,152	3,692	52,990	46	41,440	21,317	62,757	54
Cochrane	100,456	28,077	12,755	613	4,025	45,470	45	28,381	26,605	54,986	55
Manitoulin	242,125	37,971	16,933	601	3,738	59,243	24	64,644	118,238	182,882	76
Nipissing	138,729	37,940	14,553	2,423	3,025	57,941	42	44,220	36,568	80,788	58
Sudbury	110,082	27,259	12,100	1,579	4,729	45,667	41	34,383	30,032	64,415	59
Timiskaming	211,071	87,966	27,846	1,083	4,369	121,264	57	41,827	47,980	89,807	43
TOTAL	918,210	252,019	99,527	7,451	23,578	382,575	42	254,895	280,740	535,635	58
TOTAL %	100%	27%	11%	1%	3%	42%		28%	30%	58%	

of the census farms sold agricultural produce in the range of \$2,500 to \$4,999, while 31 percent had revenue in excess of \$5,000 from agricultural products (Table 50).

The Census Division of Timiskaming recorded the highest number of farms (711) within the Planning Region, as well as the greatest number of farms reporting agricultural sales over \$2,500. The Census Division of Manitoulin had the largest percentage of farms (61 percent) having sales in excess of \$2,500.

The 1971 Census of Canada statistics indicated that the capital invested in farms in Northeastern Ontario exceeds \$110,812,000. Although all census divisions reported substantial farm investments, Timiskaming Census Division had the highest value (\$27,111,000). This Census Division also reported the highest investment in machinery and equipment (Table 51).

The sale of wood products from farms provides revenue to the farm operation. In Northeastern Ontario, Nipissing Census Division in 1971 reported the largest number of farms selling wood as pulpwood and saw logs. Algoma farms sold the largest number of Christmas trees while Manitoulin Census Division farms sold the largest numbers of cords of fuelwood (Table 52).

All of the census divisions having land within the Great Lakes-St. Lawrence Forest Region reported farms tapping maple trees for maple syrup production. Algoma reported the largest number of trees tapped, followed by Nipissing, Manitoulin and Sudbury (Table 52).

TABLE 50

1971 VALUE OF AGRICULTURAL PRODUCTS SOLD BY CENSUS DIVISION

CENSUS DIVISION	NO. CENSUS FARMS	LESS THAN \$2500		\$2500-\$4900		MORE THAN \$4900	
		NO.	%	NO.	%	NO.	%
Algoma	445	273	61	54	12	118	27
Cochrane	338	202	60	58	17	78	23
Manitoulin	472	183	39	126	27	163	34
Nipissing	462	236	51	60	13	166	36
Sudbury	415	277	67	37	9	101	24
Timiskaming	711	346	49	117	16	248	35
TOTAL	2,843	1,517	53	452	16	874	31

Source: 1971 Census of Canada

TABLE 51

FARM CAPITAL IN DOLLARS

CENSUS DIVISION	TOTAL VALUE	LANDS AND BUILDINGS	MACHINERY AND EQUIPMENT
Algoma	16,935,800	10,869,500	3,328,000
Cochrane	11,642,800	6,873,000	2,317,600
Manitoulin	19,284,800	11,178,000	2,925,900
Nipissing	18,663,300	11,485,200	3,925,700
Sudbury	17,174,400	12,168,700	3,104,400
Timiskaming	27,111,000	16,073,500	5,732,800
TOTAL	110,812,100	68,647,900	21,334,400

Source: 1971 Census of Canada

TABLE 52

FOREST PRODUCTS SOLD FROM CENSUS FARM WOODLOTS, 1970 - MAPLE TREES TAPPED 1971

	PROVINCE	PLANNING REGION	ALGOMA	COCHRANE	MANITOULIN	NIPISSING	SUDBURY	TTMISKAMING
Farms reporting any wood products sold, 1970	4,502	271	41	22	45	72	33	58
Fuelwood sold - cord	14,851	858	135	20	361	87	67	188
Farms reporting	760	53	8	2	13	10	9	11
Pulpwood sold - cord	99,460	15,688	942	729	2,223	5,600	4,344	1,850
Farms reporting	1,138	165	18	15	19	51	21	41
Logs sold - million board feet	26,663	707	94	6	204	218	65	120
Farms reporting	2,003	52	11	2	18	15	2	4
No. of Christmas Trees sold	291,200	1,367	525	-	50	430	362	-
Farms reporting	229	10	3	-	1	3	3	-
Maple trees tapped 1971:								
No. of tappings of trees	665,677	26,354	11,001	-	5,643	7,550	2,160	-
Farms reporting	1,536	57	23	-	17	12	5	-

Source: 1971 Census of Canada

C. TRENDS

In the period 1951 to 1971, the farm population, the number of census farms and the amount of improved agricultural land declined for all census divisions (Table 53). The attraction of higher paying non-farm forms of employment has generally been the primary reason for this decline.

During the ten year period from 1961 to 1971, there was a decline of more than 25 percent, 138,988 hectares (343,448 acres) in farm acreages throughout the Planning Region. Of this total land taken out of farming, more than 72 percent was unimproved land (Table 54).

The average farm size has increased by about 25 percent since 1961. Farms of 162 hectares (400 acres) or more account for 28 percent of the total farms; those of less than 28 hectares (70 acres) represent six percent (Table 55).

The census division which experienced the largest decline in farm land from 1961 to 1971 was Cochrane with 46 percent decrease, followed by Sudbury with 40 percent, Algoma with 32 percent, Nipissing with 31 percent, Manitoulin with 13.4 percent and Timiskaming with the smallest decline of 13 percent (Table 54).

Farmers in Northeastern Ontario not only have a shorter growing season than their counterparts in Southern Ontario, but they also have to pay higher transportation costs to obtain supplies and services and to compete in produce sales for the Southern Ontario market. Although farm land generally has not attracted the higher prices paid in Southern Ontario, it is increasing in value. This is especially the case

TABLE 53

FARM POPULATIONS, CENSUS FARMS, IMPROVED LAND ACRES BY CENSUS DIVISION

CENSUS DIVISION	1951			1961			1971		
	FARM POP'N NO.	CENSUS FARM NO.	IMPROVED LAND - HECTARES/ (ACREAGE)	FARM POP'N NO.	CENSUS FARM NO.	IMPROVED LAND - HECTARES/ (ACREAGE)	FARM POP'N NO.	CENSUS FARM NO.	IMPROVED LAND - HECTARES/ (ACREAGE)
Algoma	6,669	1,333	35,283 (87,187)	5,292	708	26,778 (66,171)	1,853	447	21,444 (52,990)
Cochrane	11,722	2,198	50,379 (124,489)	5,320	900	32,970 (81,471)	1,760	340	18,401 (45,470)
Manitoulin	4,535	956	29,599 (73,141)	2,975	728	26,320 (65,037)	1,774	473	23,975 (59,243)
Nipissing	8,392	1,403	37,225 (91,985)	5,187	811	31,838 (78,674)	2,305	462	23,448 (57,941)
Sudbury	10,168	1,634	38,664 (95,540)	4,429	841	29,769 (73,562)	2,116	416	18,481 (45,667)
Timiskaming	8,058	1,589	91,026 (224,929)	5,559	1,070	49,413 (122,103)	3,539	712	49,074 (121,264)
TOTALS	49,544	9,113	282,176 (697,271)	28,762	5,058	197,088 (487,018)	13,347	2,850	154,823 (382,575)

Source: 1951, 1961, 1971 Census of Canada

TABLE 54
FARM NUMBERS AND AREAS - 1961-1971

CENSUS DIVISION	FARMS		PERCENT CHANGE	FARM AREA IN HECTARES/ (ACRES)		PERCENT CHANGE
	1961	- 1971		1961	- 1971	
Algoma	708	447	36.86	68,145 (168,391)	46,845 (115,757)	31.26
Cochrane	900	340	62.22	75,743 (187,166)	40,653 (100,456)	46.32
Manitoulin	728	473	35.02	113,221 (279,775)	97,984 (242,125)	13.44
Nipissing	811	462	43.03	81,087 (200,371)	56,142 (138,729)	30.76
Sudbury	841	416	50.54	74,196 (183,342)	44,549 (110,082)	39.96
Timiskaming	1,070	712	33.46	98,202 (242,663)	85,417 (211,071)	13.01
REGION	5,058	2,849	43.67	510,594 (1,261,708)	371,590 (918,220)	27.22

Source: 1971 Census of Canada

TABLE 55
1971 FARM SIZE IN HECTARES (ACRES)

CENSUS DIVISION	UNDER 28 HECTARES/ (70 ACRES)	28-162 HECTARES (70-400 ACRES)	162 HECTARES + (400 + ACRES)
Algoma	20 (50)	121 (299)	40 (98)
Cochrane	10 (24)	93 (231)	34 (85)
Manitoulin	6 (14)	89 (220)	97 (239)
Nipissing	5 (13)	135 (334)	47 (115)
Sudbury	16 (39)	120 (297)	32 (79)
Timiskaming	17 (42)	195 (481)	76 (189)
TOTAL	74 (182)	753 (1,862)	326 (805)
	6.3%	65.35%	28.25%

Source: 1971 Census of Canada

where agricultural land is adjacent to urban or attractive recreational areas.

Through the A.R.D.A. program of the Ministry of Agriculture and Food, farm land can be made available to farmers. In addition, the Ministry of Natural Resources, through Section 48 of the Public Lands Act, may dispose of land for agricultural purposes. During the period 1965-1975, there were 198 agricultural patents issued involving approximately 8,337 hectares (20,600 acres). However, in this period the number of patents decreased substantially from 62 in 1965 to 4 in 1975.

CHAPTER VI

OTHER PLANS

A number of provincial and other agencies, including most of the operating divisions of the Ministry of Natural Resources, have developed or progressed towards plans for their specific responsibilities. It is necessary to recognize these plans and to indicate how the Ministry of Natural Resources Strategic Land Use Plan will relate to them.

1. OTHER MINISTRY OF NATURAL RESOURCES PLANS

It is assumed that all plans of the Ministry of Natural Resources that require the use of land will conform to the Strategic Land Use Plan. This would apply quite obviously to all such plans that are prepared subsequent to the completion of the Strategic Plan. The precise course of action for each of the various existing Ministry plans will only be clear as the Strategic Plan develops.

A. DIVISION OF FISH AND WILDLIFE

a) Fisheries Management Plans

A strategic plan for the fisheries of Ontario has been the subject of a joint federal-provincial study. This strategic plan will offer direction to fisheries management plans in Ontario. Within the Planning Region, the Ministry hopes to prepare management plans for critical fisheries management units. Management plans are being prepared for Lake Nipissing, Lake Superior and acid contaminated lakes of the Sudbury basin.

b) Wildlife Management Plans

Within Northeastern Ontario there are 27 wildlife management units which have been defined based upon ecological and management criteria. These management units, or combinations of them, make up the hunt schedule zones for deer and moose.

A preliminary deer management plan has recently been prepared for Manitoulin Island to optimize benefits from the deer population of the area. A similar plan is being developed for St. Joseph Island.

B. DIVISION OF FORESTS

a) Forest Management Plans for Timber Management Units

As the present forest management plans terminate, new management plans will be prepared to cover the next 20-year management period. The new plans will be prepared to reflect improved inventory information and operating procedures and may, in many instances, require a restructuring of the present management units.

The new forest management plans will translate forest management policy and objectives into specific treatments for a particular forest area. These plans will define wood production objectives and will determine how the forest will be enhanced for uses such as camping, fishing and hunting.

C. DIVISION OF LANDS

a) North Georgian Bay Recreational Reserve

A general land use plan for the Reserve was approved in 1971 and is now under review. The plan indicates the maximum degree of

development and the kind of use that should be permitted for the various parts of the Reserve. The Reserve is a multiple use area where recreation is the dominant use and where a variety of other uses are permitted.

b) Lake Temagami Plan for Land Use and Recreation Development

The Lake Temagami Plan was approved in February 1973. The plan defines 24 zones within the area and for each identifies the related management policy. The document serves as the official guideline for all the programs of the Ministry of Natural Resources that apply to the Temagami area. The plan, in conjunction with a Restricted Area Order, regulates development and use within the area.

c) Lake Management Plans

These plans evaluate the suitability and feasibility of lakes to provide Crown land cottaging opportunities. Planning priority is being given to those lakes which appear to have the maximum potential for cottaging.

d) Great Lakes Recreation Access Studies

Studies have been carried out by the Ministry to guide the provision of government assistance for the development of water-oriented recreation opportunities along the Great Lakes shoreline within the Planning Region.

D. DIVISION OF MINES

The Division of Mines, largely through the Geological Branch, carries

out and publishes geological, geophysical and geochemical surveys and research in order to identify the relationships between known mineral deposits and their geological environments and to predict favourable environments where further discoveries might be made. This permits development of guidelines for mineral exploration and preparation of mining potential maps which can be used as input for land use planning.

E. DIVISION OF PARKS

a) Park Master Plans

There is an active program to prepare master plans for the Provincial Parks in Northeastern Ontario. At present, none of the master plans being prepared have been completed or approved.

Park Master Plans establish detailed policy guidelines for each Provincial Park for long term preservation, development and management.

b) Park Systems Plans

In the future, Regional-Provincial Park Systems Plans will be prepared. These plans will identify the objectives of the parks system and establish the relationship and compatibility of one park to another.

2. PLANS OF OTHER AGENCIES

The Ministry of Natural Resources has no direct control over the plans of other agencies. Therefore, the Strategic Plan will either have to conform to other agencies plans or negotiate a change in the other plans. Indeed, a major benefit of the Strategic Land Use Plan will be the consolidation

of the Ministry of Natural Resources position on land use for inputs to other plans. The Ministry will continue to be actively involved in the preparation and review of plans of other agencies.

A. MINISTRY OF TREASURY, ECONOMICS AND INTERGOVERNMENTAL AFFAIRS,
DESIGN FOR DEVELOPMENT, NORTHEASTERN ONTARIO REGIONAL STRATEGY,
1976

This document has recently been made available for review and comment from the people, industries, institutions and government agencies involved in Northeastern Ontario. It is anticipated that the document will be rewritten to reflect the input that has been achieved through this review process.

The Regional Strategy document presently proposes strategy objectives in three broad component areas: economic; social; and spatial. The main elements of the Regional Strategy consist of:

1. Diversification of the Region's economic structure, together with increased processing of resources, diversification of resource based products and development of tourism and services;
2. Encouragement of economic growth. The major urban centres, Sudbury, Sault Ste. Marie, North Bay and Timmins are recognized as first priority;
3. Improvement of social services and amenities with increased local participation and decentralization;
4. Comprehensive planning to ensure the Region's natural resources are optimally utilized and that measures are taken to prevent and remedy pollution and degradation of the environment.

Through the various strategies proposed, the population of Northeastern Ontario (including all of Parry Sound and Nipissing Districts) is

expected to reach 863,000 by the year 2001. This estimated population represents an increase of 263,000 over the present 1976 population and 153,000 over the projected population in the year 2001 based on present trends.

Thirty-six specific recommendations have been presented in the Regional Strategy. Of the 36 objectives, 20 directly affect the programs of the Ministry of Natural Resources. The 20 objectives by strategy area and sector are:

a) Economic Strategy - Mining Sector

1. Exploration efforts, particularly in the form of integrated geoscience investigations, should be intensified in declining mining areas.
2. Consolidation of mineral rights should be undertaken in areas where this will promote the exploration and exploitation of promising deposits.
3. The government should encourage research into alternate technologies that would make economic processing in the north-east possible.
4. All exploration and development information, both government and private, should be placed on open file within five years of its performance, except in special cases.
5. To increase benefits from the mineral resources of the Region, further treatment and refinement of ores domestically should be required (with limited exceptions) and processing within Northeastern Ontario should be promoted by continued use of financial incentives.

b) Forestry Sector

6. A wood allocation system should be evolved to better guarantee a continuing wood supply to the various sizes and types of operations.

7. To make more economical use of the wood supply, the wood allocation system should be evolved which will provide better utilization of wood fibre in both harvesting and end products.

8. The province should review its present levels of expenditures on forest protection, regeneration and management.

c) Tourism Sector

9. The feasibility of encouraging four-season tourist facilities should be investigated further.

10. Areas identified as having significant tourism opportunities should be publicized and receive higher priority than others for development assistance.

d) Social Strategy - Housing

11. The provincial government should initiate joint provincial-municipal sub-regional planning in the areas surrounding the Region's four major urban centres and in other areas where necessary.

12. The province should initiate the development of policy guidelines for housing investments in small, unorganized and declining settlements in the Region.

13. The province should initiate the development of policy guidelines for public and private investment in resource housing in single industry communities.

e) Spatial Strategy - The Urban System Strategy

14. New urban development should be concentrated as much as possible within organized municipalities and should be consistent with environmental constraints.

15. Government attention and assistance to the economic growth of urban centres should be selective and based on priorities.

16. Initially, priority in terms of providing additional economic development assistance should go to the four sub-regional centres:

North Bay	Sudbury
Sault Ste. Marie	Timmins

17. The provision of additional economic development assistance to the Region's area service centres should be of a somewhat lower priority. The area service centres are:

Kapuskasing	Moosonee
Kirkland Lake	Tri-Town (Cobalt, Haileybury, New Liskeard)

18. Third priority for economic development assistance should be given to local service centres. The ten centres identified in this category are:

Elliot Lake ¹	Espanola
Blind River ¹	Chapleau
Wawa	Little Current
Hearst	Sturgeon Falls
Cochrane	Iroquois Falls

¹Because of the growth expected to occur in both Elliot Lake and Blind River, these two centres are expected to be reclassified as "area service centres".

f) Resource Base Strategy

19. Comprehensive water and land use planning in the Region should continue to be pursued by the province in co-operation with the municipalities concerned.

20. Efforts to prevent and remedy environmental pollution and degradation should be continued and intensified.

B. MINISTRY OF INDUSTRY AND TOURISM

a) Development of Tourism in Northern Ontario, November 1972

This report was prepared by consultants under the direction of the Ministry of Industry and Tourism. Assistance was provided by a study committee comprised of representatives of the tourist industry as well as the Ministry of Natural Resources.

The purpose of the study was to formulate broad tourism development strategies so as to maximize the economic benefit of tourism to Northern Ontario in a manner consistent with the natural resources of the area.

The report established seven broad objectives for Northern Ontario which have been summarized as follows:

1. to achieve the most suitable use of the land for tourism in relation to the resources;
2. to achieve optimum intensity of land use in relation to the capacity of the resources;
3. to achieve the most effective arrangement of land uses in relation to the activities being pursued and the facilities required;
4. to achieve the most effective location of land uses in relation to existing infrastructure;

5. to achieve optimum form of investment in relation to the return on capital and volume of expenditures;
6. to achieve a diverse mix of tourist attractions; and
7. to achieve a high level of service for the visitor.

Development strategy prepared for Northeastern Ontario indicated four high intensity public and commercial use areas: Sault Ste. Marie; Sudbury, North Bay-Mattawa; and Wawa. Primary public use areas were indicated in the Temagami area and along the shore of Georgian Bay. Cottaging was indicated primarily within a 402 km (250 mile) radius from Toronto while hunting, fishing and wilderness forms of recreation were indicated outside of the 402 km (250 mile) boundary line. Sault Ste. Marie was proposed as a winter recreation development centre.

b) Tourism Development in Ontario: A Framework for Opportunity, 1976

A second report has been prepared to help guide future tourism development in Ontario for the next five to ten years. The first phase of the report outlines a broad province-wide strategy, while the second phase will suggest detailed strategies for selected geographic areas.

Three zones within Northeastern Ontario have been defined as part of the phase two evaluation. They are the North Bay-Sudbury-Sault Ste. Marie-Wawa areas.

C. MINISTRY OF TRANSPORTATION AND COMMUNICATIONS, NORTHEASTERN ONTARIO TRANSPORTATION STUDY, 1974

The highway requirements of Northeastern Ontario were determined,

outlining the following transportation objectives:

1. increase accessibility between population centres;
2. increase access to natural resources;
3. increase accessibility between centres of population and airports;
4. reduce time/cost of moving goods and people within and through the Region and between the Region and external markets;
5. provide comprehensive transportation planning.

Major recommendations of the study were:

1. the four laning of Highway 17 from Heyden south to Sault Ste. Marie and then easterly to Mattawa and outside of the study area;
2. a new highway connection between Highway 144 and Highway 129 and passing by the community of Sultan;
3. a new highway connection northerly from the end of Highway 655 to connect to Highway 11 between Cochrane and Smooth Rock Falls.

D. ONTARIO HYDRO LONG RANGE PLANNING OF THE ELECTRIC POWER SYSTEM,
FEBRUARY 1974

Long range planning of the electric power system indicates that additional major generating stations will be required by 1984. At least one new major generating station will be required in the Northeastern Planning Region. It is also possible that a generating station could be built to utilize the Onakawana lignite deposits. There is need for additional major transmission lines, including a second 500 KV route south from Sudbury.

Ontario Hydro has proposed several possible sites for a thermal

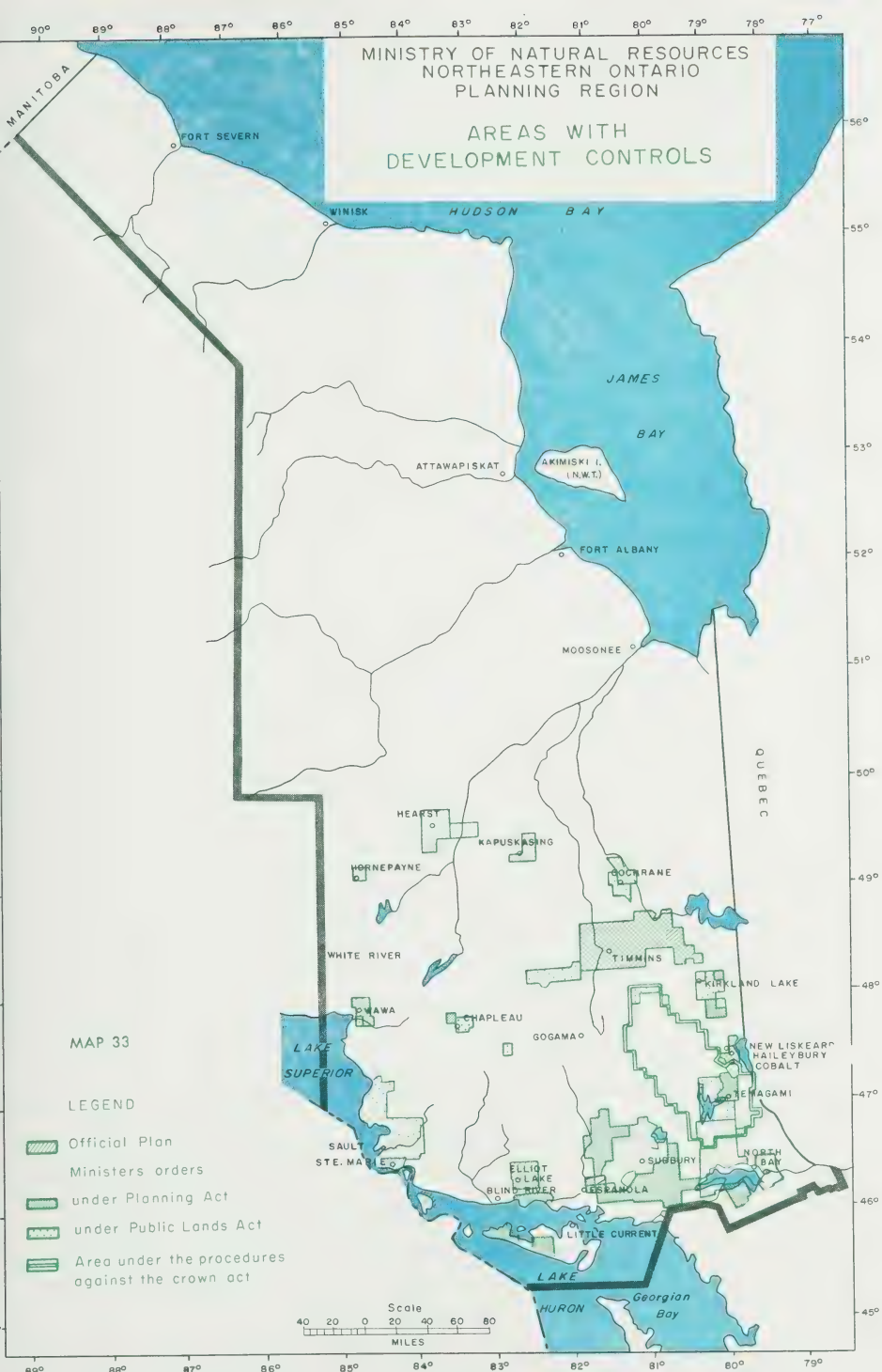
generating station along the north shore of Lake Huron. The three study areas being investigated are in the Great La Cloche Island, Blind River and Thessalon areas. A public participation program will be involved in the selection of the site and associated transmission lines.

E. MUNICIPAL OFFICIAL PLANS AND THE MINISTRY OF HOUSING

Under the Planning Act, municipalities are required to prepare appropriate studies and make plans to ensure the health, welfare, safety and convenience of present and future inhabitants. Municipal planning is supported, guided and facilitated by the Ministry of Housing, with due consultation with concerned agencies, including the Ministry of Natural Resources. Completed plans are reviewed for conformity with the Planning Act and with provincial policies. Upon approval by the Minister of Housing they become the official plan of the municipality. Municipalities, therefore, play a key role in shaping the future of the Planning Region.

Where official plans are approved, it will normally be assumed that plans prepared by the Ministry of Natural Resources will conform. In some cases it may well be that official plans conflict with Ministry of Natural Resources concerns. In such cases, the possibility of taking steps leading to official plan revisions must be considered.

The Ministry of Natural Resources, because of its concern with the management of natural resources, is contributing through input and review to the official planning process in areas such as the following (Map 33):



- Sault Ste. Marie North
- Regional Municipality of Sudbury
- Timmins
- Manitoulin
- Blind River
- Black River-Matheson
- Hearst
- Smooth Rock Falls
- Michipicoten Township
- Wicksteed Township

F. CONSERVATION AUTHORITIES

Within the Northeastern Planning Region, four Conservation Authorities have been created (Map 34). They are:

1. The Mattagami Region Conservation Authority
- 10,930 square kilometres (4,220 sq. miles);
2. The Nickel Belt Region Conservation Authority
- 7,547 square kilometres (2,914 sq. miles);
3. The North Bay-Mattawa Conservation Authority
- 2,577 square kilometres (995 sq. miles);
4. The Sault Ste. Marie Conservation Authority
- 215 square kilometres (83 sq. miles).

Under the Conservation Authorities Act, each Authority is responsible for initiating comprehensive local programs in the field of soil and water conservation. Within the Northeastern Region, flood control and erosion control are primary considerations.

The powers of the Authorities are specific and defined by legislation. Section 27 of the Conservation Act enables the Conservation Authorities to:

1. restrict and regulate the use of water;
2. prohibit or regulate any modification of an existing channel of a watercourse;

3. prohibit or regulate the construction of any building or structure in any area susceptible to flooding during a Regional storm;
4. prohibit or regulate the placing or dumping of fill in any area in which, in the opinion of the Authority, the control of flooding or pollution or the conservation of land may be affected.

Through a cost-sharing program, the Conservation Authorities have prepared as a guide for development, flood plain maps for the more intensively developed portions of the Authorities. These flood plain maps define those areas which would be susceptible to flooding resulting from the Regional Design Storm Condition for the particular watershed. The placement of buildings or structures, and the dumping of fill, are regulated in these areas.

Conservation Authorities also have active programs in conservation and recreation land management. This involves conservation¹ and water-front areas which are acquired or developed to provide outdoor recreation experiences including angling and hunting.

¹ Includes development on lands acquired for flood control purposes such as valley and reservoir lands.



CHAPTER VII

PROBLEMS AND ISSUES

1. INTRODUCTION

The purpose of this Chapter is to summarize the key problems and issues which concern the Ministry in the formulation of the Strategic Land Use Plan for Northeastern Ontario. While every attempt has been made to identify the main problems and issues, it is quite possible that the list presented here is not complete. An important part of the public review of this report is the identification of any additional issues which may have been omitted.

The problems and the issues related to the Northeastern Planning Region have been identified, to date, through five basic sources:

1. the Five Year Development Program Report of the Northeastern Ontario Development Council;
2. the Man and Resources Program for Northeastern Ontario;
3. the Design for Development Program for Northeastern Ontario;
4. the problems and concerns which are being brought to the attention of the field offices of the Ministry;
5. the problems which were mentioned in the resource sections of this document.

Both the 1969 Northeastern Ontario Development Council report and the 1972 Man and Resources Program identified problems perceived by the public of Northeastern Ontario. The 1969 report established that social problems were paramount to the people of Northeastern Ontario. The 1972 program indicated that there was a growing interest and concern for the natural environment. Public input to the Design for Development program has

further highlighted these concerns.

While there is a great variety of problems and issues throughout the Planning Region, many significant ones are related to the effects of growth of population and industry on the natural resource base. Concern is universally expressed as to how the land will be used, what goods and services are most required and by whom, and under what systems will decisions finally be made. It is hoped that additional steps in the planning process will further define and help resolve these fundamental questions.

A. EMPLOYMENT

Reliance on the principal industries of the Region - forestry, mining and primary metal production - has contributed to a lack of job security and job choice. The result has been relatively high unemployment and a steady stream of young people leaving the Region. Periodic market depressions in the resource fields are particularly critical in several single industry towns. The Planning Region continues to suffer from a shortage of skilled miners, woodsmen, tradesmen and professionals.

B. HOUSING

There is a critical shortage of housing in some parts of the Region. The result has been an inflation in the price of building materials and the cost of residential land.

This trend, coupled with the unpredictable nature of some mining and forest activities, has increased the demand for rental units, mobile homes and rural-residential dwellings. At the same time, there is a trend for people to seek small farm holdings, 2 to 4 hectares

(5 to 10 acres) to which they can "escape" from the city and become self-reliant. Requests for this type of land disposition continue to increase dramatically.

C. TRANSPORTATION

In Northeastern Ontario, high transportation costs tend to discourage the development of industry. These higher rates can be attributed in part to indirect transportation routes to markets and lack of "incentive box-car rates".

The transportation system also tends to increase the cost of consumer goods coming into the Region.

D. INDIAN RIGHTS

A conflict exists between provincial hunting and fishing regulations and the traditional activities of native people. More recently, the question of native rights has resulted in several land claims including the Bear Island claim covering 110 townships in the Temagami-Elk Lake area.

Regional resource planning and development is curtailed in some portions of the Region pending resolution of these matters.

E. ENVIRONMENTAL PROTECTION

The presence of industrial and naturally occurring contaminants is reducing the options for future resource use including recreation. The most notable examples are sulphur dioxide in the Sudbury and Wawa areas, heavy metals in Lake Timiskaming and Lake Abitibi and radioactive waste products in the Elliot Lake-Serpent River watershed.

F. TIMBER RESOURCES

The problems of the forest and the forest industry are numerous. The main ones will be dealt with here but this is not to indicate that these are the only ones nor is any priority rating implied.

a) Site

In the future it will be critical to recognize the productivity of individual sites so that the forests may be managed more effectively. Poor sites have a limited ability to grow good trees. On good sites, regeneration will either occur naturally or be brought about by artificial means, all within a reasonable period of time. On the poorest sites, the tree stands which are presently there probably took 200 to 300 years to reach their present state. If they are removed, replacing them will not only be difficult but will take a very long time.

b) Industry

An antiquated industry is another problem. The last pulpmill to be built in this Region came into production in 1924. Since then, there have been considerable advances in technology in the pulp and paper industry. Although the mills have done some updating and expansion, the basic unit is old. Today, the Ministry of the Environment demands certain "clean-up" processes be installed. To do this, the mills demand additional wood to increase production to pay for this overhead cost.

Sawmills, on the other hand, have made large strides in updating their mills but, of course, the capital investment is less than that for a pulpmill. Nevertheless, there are cases where there

are too many sawmills clustered in the same area and looking to the same forest area for their future supply. Some amalgamation or sorting out of these mills would be desirable.

c) Expensive Wood

In all cases, there is no longer a supply of relatively cheap wood close to the mill. Long haulage and problems with the labour force in remote areas are concerns of industry which are reflected readily in forest management. If harvesting costs increase, the regeneration costs will probably increase for the same reasons.

The preferred species are going to be in short supply. Due to the scarcity of white pine, the major white pine industry that Ontario once had is a thing of the past. Good quality yellow birch is becoming scarce; however, regeneration efforts have been intensified to perpetuate a continuing supply of this species. Communities which are solely dependent on the forest industry should be aware of the supply situation to their industry. When the preferred species are gone, some mills will close but others will switch to a less desirable species producing less profit. These changes will represent a potential reduction in the economic life of a large segment of the Northeastern Planning Region.

There are still large volumes of white birch, poplar and tolerant hardwood pulpwood. Use by industry of these presently unused species and products would mean that most of the "debris" of the forest harvest would be removed and, therefore, the potential for improving the forest crop would be considerable.

Only about 45% of the lands harvested in the Region are being regenerated by natural or artificial means. Many lands which are not regenerated in the southern portion of the Region bear a residual stand which may or may not be harvested in the future. However, in the north there are acres which could be treated if additional staff and funding were available. A prerequisite to this work must be a site evaluation to identify poor sites and thus permit concentration on the best sites.

d) Forest Management

One of the largest problems hindering complete forest utilization is the lack of understanding of forest management principles by a great majority of people.

A forest is dynamic. Any change in one of its elements affects the system. With this understanding, the system can be manipulated to provide a continuing array of quality benefits. However, the quality, and more particularly, the continuity of those benefits are directly dependent on the health or well being of that dynamic forest.

It is with this principle in mind that there must be a wider appreciation of the need to rejuvenate forests in order to keep them good producers of quality benefits. At times, certain actions or events, such as fire and cutting, may appear to interrupt the provision of forest benefits. Actually, they ensure that the forest is kept young and free of the risks inherent in old age.

e) Future Demands

The Ministry is preparing a revised production target package which will attempt to deal with the unexpected pace of industrial expansion that has occurred in recent years. Preliminary estimates indicate that the provincial forest target should be increased by approximately 30% to 12.6 million cunits for the provincial total or to 4.6 million cunits for the Planning Region.

This production policy is largely oriented to industrial use. Increased demands by industry will require either a greater area committed to wood production and/or a more efficient use of existing stands (including presently underutilized species).

In addition, a clear forest management policy encompassing all uses of the forest is still required. A serious forest management policy must aim to:

1. Maintain a wood supply to support a strong competitive industry.
2. Utilize existing tree species and wood products which are now being bypassed.
3. Manage the forest for wildlife, recreation and fishery purposes.
4. Manage the forest in such a way as to protect the soil and waters of the Northeastern Planning Region.
5. Encourage intensive management of the best wood producing lands so that an increased demand for wood fibre can be accommodated.

G. MINERAL RESOURCES

While the mining potential of the Planning Region is generally high,

investment in the Region's industry has been reduced since 1974. Depressed world prices and increased taxation are considered to be the major causes of this investment reduction.

Any reduction in exploration efforts, any increased fragmentation of mineral rights and ownership, and any increased withdrawal of lands from staking and exploration will have a negative impact on the health of the mining industry in the Region.

Structural materials, including aggregate, will be increasingly important in the Planning Region as development accelerates. The pattern of aggregate sources across the Region indicates deficit areas. This, combined with the tendency to let development encroach on aggregate reserves near urban areas, could create a critical shortage in the future.

H. AGRICULTURAL RESOURCES

Prime agricultural land is being removed from the agricultural land base for housing, industry and roads. In this manner, some of the most productive farm land in the Region is being removed from future food production.

I. FISHERY RESOURCES

Public angling demands are higher than low fertility watersheds are capable of satisfying. This demand-supply imbalance is most apparent on lake trout lakes.

Nutrient loading from urban and cottage areas, as well as the addition of pollutants (including sulphur dioxide and heavy metals) may also reduce

the ability of the area to maintain and generate angling and commercial fishing opportunities.

J. WILDLIFE RESOURCES

Considerable stress is being placed on the moose resource of the Planning Region through increased access, over-harvesting and habitat deterioration. These same stresses, in addition to a number of very severe winters, are having a similar effect on the deer populations.

Increased management controls will be necessary if the Ministry of Natural Resources is to maintain or increase the hunting opportunities for these species.

K. RECREATIONAL OPPORTUNITIES

An increased demand is occurring for all types of outdoor recreational activities within the Northeastern Planning Region. This demand is rapidly increasing the number of conflicts between recreation activities as well as between recreation and resource extraction activities.

L. NON-RESIDENT OWNERSHIP

Identified as a major concern by the Man and Resources Project, non-resident ownership of land continues to be a contentious issue. Although "non-Canadian" ownership receives the most criticism, many people tend to resent all non-local ownership.

Segments of the public also express dislike of non-resident use of resources, particularly when a resource seems to be in short supply. This is the case presently with such resources as cottage lots, moose, timber and fish.

Areas which have extensive private ownership of relatively remote land, such as patented mining claims, will probably experience an increase in non-resident ownership as the demand for private wilderness increases. Newspaper advertisements and direct enquiries provide ample evidence of this form of recreational demand.

M. PRIVATE LAND OWNERSHIP

In certain parts of the Planning Area, private land ownership is so extensive that it can interfere with resource use. Public access to certain lakes can be denied, logical routes for roads can be blocked and undesirable development can take place.

N. ROADS

Most of the public view the development of roads as a desirable thing, not only economically, but also for the purposes of increased access. However, there is a segment which strongly opposes expansion as an "encroachment on dwindling wilderness". Some of the objections stem from fears of new access disrupting established businesses or centres of activity, but most are based on a desire to preserve.

Perhaps more of a problem in terms of land and resource management is the evolution of secondary uses of roads which were originally designed and built for resource extraction. This results in a continuing demand for maintenance of the road long after the original purpose has been served.

O. COMMUNITY PROBLEMS

The problems associated with the loss of an industry to a one-industry village are well known; those associated with the sudden introduction

of a new major industry are not. When the industry is resource based (mining, logging), this Ministry becomes deeply involved in the problems. Both situations have occurred in the planning area within the last four years (mine closure at Gowganda, new mine development at Matachewan).

P. HUDSON BAY LOWLANDS

The delicate ecosystem of the Hudson Bay Lowlands poses a unique problem. Undoubtedly, the area will be subject to conflicting demands for resource products and recreation values. These demands will be difficult to satisfy in light of the area's limited ability to sustain intensive use or development.

In July of 1977, the Royal Commission on the Northern Environment was established to evaluate amongst other things, impacts of development north of 50° N latitude. The Ministry of Natural Resources will present a submission to the inquiry.

Q. SUMMARY

A solution to any of the problems and issues identified will be a complex one because of the consequences it will have on related uses and activities. As an example, a resolution to a resource products problem may have serious effects on the outdoor recreation program. The converse is also true.

CHAPTER VIII

APPROACH TO POLICY

1. TERMINOLOGY

The term "policy" is defined as the long term decision concerning the objectives which are to be met and the general means of achieving them.

For the initial stages of the land use planning process, the main emphasis regarding policy is to determine the objectives. "Objectives" are quantifiable and attainable ends. For the purpose of Ministry planning, objectives are defined whenever possible in terms of benefits directly related to people, such as jobs, dollars earned, or person days of recreation.

In cases where objectives directly related to people are not available, policies are stated in terms of indirect measures. These objectives are expressed in terms such as volume of wood, pounds of fish and acres of park.

2. GENERAL GUIDES TO POLICY

The basic guides to policy for the Strategic Land Use Plan are the goal and broad program objectives of the Ministry of Natural Resources as stated below.

A. GOAL STATEMENT

To provide opportunities for outdoor recreation and resource development for the continuous social and economic benefits of the people of Ontario and to administer, protect and conserve public lands and waters.

B. BROAD PROGRAM OBJECTIVES

a) Land Management Program

To administer, protect and conserve public lands and waters; and to ensure with other agencies, through participation in planning and control, co-ordinated uses of all lands and waters.

b) Outdoor Recreation Program

To provide from public lands and waters and to encourage on other lands and waters:

- a wide variety of outdoor recreational opportunities accessible to and for the continuous benefit of the people of Ontario;
- the identification and conservation of unique or representative physical, biological, cultural and historical features of the province;
- a continuous contribution to the economy of Ontario from tourism and its related industries.

c) Resource Products Program

To provide an optimum continuous contribution to the economy of Ontario by stimulating and regulating the utilization of available supplies of fish, furbearers, minerals and trees by resource products industries.

3. CANDIDATE POLICIES FOR STRATEGIC PLANNING

A. HOW DEVELOPED

The proposed policies presented in this section have been developed primarily through discussions with Ministry of Natural Resources program supervisors at the provincial, regional and district levels. The document entitled "Ministry of Natural Resources Strategic Land Use Plan, Part One, Ontario" provided the proposed provincial policies of

the Ministry of Natural Resources, together with some general policies of other ministries required for the regional policies which follow.

B. WHY CANDIDATE POLICIES ARE PRESENTED

Public participation is essential - people must be involved in a process which decides how provincial resources are to be allocated so that their needs and wants are better satisfied.

The candidate policies have been presented in order to stimulate discussion and comment so that an integrated package of policy can be developed for the Ministry of Natural Resources programs which, in turn, will reflect the concerns and interests of local communities, the Planning Region and the province. The policy package will provide the objectives of the Ministry of Natural Resources Strategic Land Use Plan.

Some of the policies which are presented are not candidate or proposed, but are official Ministry of Natural Resources policies. Both the candidate and official policies should be evaluated. Any suggestions for alteration or refinements to these policies, or for complete alternatives, are appropriate and welcome at this time.

In the next phase of the planning process, Phase II of the Strategic Land Use Plan, the candidate policies will undoubtedly be subject to revision, trade-offs and compromises. In the latter phase, Phase III, the critical land areas which will be required to achieve the objectives will be identified. Again, additional trade-offs will probably have to be made and some of the objectives refined even further.

C. RELATIONSHIP OF POLICIES TO OTHER MINISTRIES

In some areas, the Ministry of Natural Resources shares a concern over the management of the natural resources with another ministry. To provide a basis for minimizing conflict with other ministries, candidate policies have been developed. Policies proposed indicate what the Ministry of Natural Resources will do relative to other ministries' programs. In no way should this be construed to mean that the Ministry of Natural Resources is attempting to shape policy or plans for other ministries.

The planning of the Ministry of Natural Resources is done within the framework of the province's Regional Development Program. The North-eastern Planning Area of the Ministry of Natural Resources is generally similar to the Development Region defined by the Ministry of Treasury, Economics and Intergovernmental Affairs. The policies and plans prepared by the Strategic Land Use Plan will be developed in a way which will make a positive contribution to the Regional Development Program.

4. PLANNING HORIZON

Regional policies are prepared for the long term which is taken to mean in excess of 20 years. The policies outlined should all be assumed to have a planning horizon of at least the year 2000.

5. PROPOSED MINISTRY POLICY

The following are proposed as Ministry policy within the Northeastern Planning Region:

A. PLANNING PRINCIPLES

THE MINISTRY OF NATURAL RESOURCES WILL ADOPT THE FOLLOWING GENERAL PLANNING PRINCIPLES:

- a) PLANS WILL BE MADE TO ACHIEVE OBJECTIVES. OBJECTIVES WILL BE CLEARLY IDENTIFIED IN TERMS OF WHAT IS TO BE DONE AND FOR WHOM;
- b) PUBLIC PARTICIPATION WILL BE AN ESSENTIAL PART OF THE PLANNING PROCESS. THE PUBLIC WILL BE INVOLVED IN THE PROCESS WHICH DECIDES HOW THE RESOURCES ARE TO BE ALLOCATED;
- c) PLANNING WILL BE A DYNAMIC PROCESS AND WILL BE SENSITIVE TO CHANGING CONDITIONS AND NEW INFORMATION. PERIODIC REVIEW WILL BE AN INTEGRAL PART OF THE PLANNING PROCESS;
- d) PLANS WILL BE MADE FOR A LONG TERM AND WILL PROVIDE FOR FUTURE OPTIONS;
- e) THE PLAN WILL ALLOCATE LAND SO THE MOST EFFECTIVE USE IS MADE OF THE LAND AS IT RELATES TO THE OBJECTIVES;
- f) NORMALLY, THE PUBLIC GOOD WILL HAVE PRIMACY OVER THE PRIVATE GOOD.

B. ORDERLY DEVELOPMENT, BALANCE, FUTURE FLEXIBILITY

MINISTRY PLANS WILL BE MADE TO ENCOURAGE ORDERLY DEVELOPMENT, BALANCE AND FUTURE FLEXIBILITY.

DISCUSSION:

"Orderly Development" implies that development should be managed and should be defined within a framework of a plan.

"Balance" suggests that different kinds of development must be compatible

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and complementary. For example, a large industrial expansion within a community might necessitate the development of a housing project. It might also require that additional recreational development take place to balance the magnitude of the additional population brought on by the industrial expansion.

"Future Flexibility" indicates that some resource potential should be available in order to allow for future options and accommodate change. A certain amount of our resources might well be left uncommitted so future generations might have some say in resource allocation. Another reason for adopting a "future flexibility" policy is to maintain a "cushion" or "contingency" resource surplus against future disasters, or errors in projections of future needs. It should be noted however, that for some resources the option of "future flexibility" may no longer be available. In other cases, where knowledge of the resource is unavailable, future flexibility may be difficult to assure.

C. USE MANAGEMENT

THE MINISTRY OF NATURAL RESOURCES WILL CONSIDER THE FOLLOWING TYPES OF USE ARRANGEMENTS IN MEETING ITS OBJECTIVES: MULTIPLE USE; SEQUENTIAL USE, AND; SINGLE USE. MULTIPLE USE IS MOST SUITED TO THE ACHIEVEMENT OF THE PROGRAM OBJECTIVES OF THIS MINISTRY. IT IS ASSUMED THAT MOST OF THE LANDS AND WATERS OF ONTARIO WILL BE MANAGED UNDER THE MULTIPLE USE SYSTEM AND ONLY A SMALL PORTION OF THE LANDS WILL BE MANAGED ON A SINGLE OR SEQUENTIAL USE BASIS.

DISCUSSION:

"Multiple Use" means that two or more uses occur in the same general area, either simultaneously or in sequence cyclically. For example, forestry

operations and recreation use may take place within a forest management unit at the same time or separately, either by staggering the uses seasonally or by staggering the uses over longer intervals. As an example of the latter, forestry operations could take place on an area for a time necessary to cut and to regenerate the forest. This could require up to five years. Following the harvest, for a period of several decades, recreation would then be the prime use of the area.

"Sequential Use" is a variation of multiple use where a cycle of uses does not occur. Rather, conflicting uses are separated by time and a deliberate order is established for the sequence which terminates in some particular use. For example, forest operations may be a first use, followed by gravel extraction which is followed by rural residential. The uses in this case are not continuous except for the final one.

"Single Use" means that only one basic use is permitted. At the broad level of planning it is likely that very few areas will be considered for single use.

D. ENVIRONMENT

THE MINISTRY OF NATURAL RESOURCES HAS A COMMITMENT TO THE MAINTENANCE AND IMPROVEMENT OF OVERALL ENVIRONMENTAL QUALITY AT THE BROAD LEVEL.

ALL PROGRAMS OF THE MINISTRY OF NATURAL RESOURCES WILL MEET THE STANDARDS AND CRITERIA DETERMINED BY THE MINISTRY OF ENVIRONMENT.

DISCUSSION:

The Ministry of Natural Resources has certain specific responsibilities

related to the environment: the management of lands and waters, fish and wildlife, forest and minerals. For an example, the Ministry has a program which identifies sensitive areas throughout the Planning Region. In addition, such legislation as the Endangered Species Act provides protection of the habitat of several species such as the bald eagle and the peregrine falcon.

E. LOCAL AND TRADITIONAL USERS

WHEN NATIONAL OR PROVINCIAL REQUIREMENTS ARE NOT JEOPARDIZED, THE NEEDS AND WANTS OF LOCAL PEOPLE AND TRADITIONAL USERS WILL BE GIVEN A HICHER PRIORITY THAN THOSE OF PEOPLE FROM OUTSIDE THE PLANNING AREA.

DISCUSSION:

The goal of the Ministry of Natural Resources is "to provide opportunities for outdoor recreation and resource development for the continuous social and economic benefit of the people of Ontario and to administer, protect and conserve public lands and waters". To achieve this goal, it may be necessary, in some cases, to give priority to national or provincial requirements. An example would be energy requirements.

The needs and wants of local and traditional users are especially important to be identified and accommodated in the planning process. Where possible, these will be accommodated.

Native people living in Northeastern Ontario are among the local and traditional users of certain natural resources in certain areas. When plans are being prepared, which include such areas, the urgent need to communicate effectively with the people must be recognized. This part of the planning process must, of necessity, be given special attention due to

the remoteness of some of the settlements and the language differences.

F. DESIGN FOR DEVELOPMENT

THE NORTHEASTERN ONTARIO STRATEGIC LAND USE PLAN WILL BE PREPARED WITHIN THE OVERALL FRAMEWORK OF DESIGN FOR DEVELOPMENT FOR NORTHEASTERN ONTARIO, DEFINED BY THE MINISTRY OF TREASURY, ECONOMICS AND INTERGOVERNMENTAL AFFAIRS.

DISCUSSION:

The policy highlights of the March 1976 Report are summarized as follows:

- a) The overall development strategy is to encourage a population growth of 1.7 percent annually. This growth rate would result in a total population of 860,000 by the year 2001. The 1975 population within the Planning Region was approximately 600,000.
- b) The main objectives of the economic strategy are:
 - 1. Greater stability of production, employment and earnings;
 - 2. Increased diversity of occupational opportunities;
 - 3. Improved productivity and earnings;
 - 4. Growth of employment opportunities and population;
 - 5. The maintenance of a good quality environment.
- c) The overall objectives of the social strategy for Northeastern Ontario are:
 - 1. To tailor the social service delivery system to particular needs in the Region;
 - 2. To optimize the use of health resources manpower;
 - 3. To minimize the costs and effects of distance.

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d) The spatial strategy consists of two components: the urban system strategy and the resource base strategy. The urban system strategy is based on the following objectives:

1. More efficient use of existing infrastructure and services;
2. An equitable distribution of economic and social opportunities;
3. A rational location for additional development.

e) The resource base strategy has the following objectives:

1. Optimal use of mineral, forest, recreational, agricultural, fish and wildlife resources;
2. Maintenance and enhancement of environmental quality.

Northeastern Ontario's natural resource base underlies the Planning Region's economic activities and recreational opportunities. To ensure a continuing supply of resources for industry and opportunities for recreation and tourism, long term policies and careful management of the resource base is essential.

The Ministry of Natural Resources management policies and programs should play an important part in meeting the objectives of the regional strategies identified for Northeastern Ontario.

G. CROWN LAND DISPOSITION

CROWN LAND WILL BE MADE AVAILABLE FOR RECREATIONAL, RESIDENTIAL, MUNICIPAL, INDUSTRIAL, COMMERCIAL, INSTITUTIONAL, AGRICULTURAL AND GOVERNMENTAL PURPOSES.

AS PART OF THIS DISPOSITION POLICY, THE MINISTRY OF NATURAL RESOURCES WILL ENSURE:

- a) THAT LAND IS DISPOSED OF FOR A DEFINITE PURPOSE;
- b) THAT SPECULATION IS DISCOURAGED;
- c) THAT LAND WILL BE USED FOR THE PURPOSE INTENDED;
- d) THAT ONLY THAT AMOUNT OF LAND REQUIRED FOR THE INTENDED PURPOSE IS DISPOSED OF;
- e) THAT A REASONABLE MONETARY RETURN IS REALIZED;
- f) THAT DISPOSITION CONFORMS TO EXISTING DEVELOPMENT PLANS AND MEETS THE REQUIREMENTS OF OTHER AGENCIES AND MINISTRIES.

DISCUSSION:

Although the policy provides for the sale of Crown lands, term documents such as leases, land use permits and licences of occupation, are a much more preferable form of tenure for most uses for the following reasons:

- a) These documents may be written to grant authority for various periods of time;
- b) These documents may include any condition thought to be necessary in any situation (environmental concerns, etc.);
- c) These documents can be revised at the end of any term or at any point during any term, provided the appropriate conditions are inserted in the document;
- d) Rental rates can be modified at fixed intervals to reflect the current market values;
- e) Speculation can be discouraged through the Crown's retention of ownership.

H. RESIDENTIAL DEVELOPMENT

- a) THE MINISTRY OF NATURAL RESOURCES WILL MAKE CROWN LAND AVAILABLE FOR RESIDENTIAL AND ASSOCIATED USES IF THE MINISTRY OF HOUSING HAS REQUESTED ITS RELEASE FOR DEVELOPMENT FOLLOWING CONSULTATION AND APPROVAL FROM OTHER MINISTRIES OR IF SUCH LAND IS APPROVED IN

AN OFFICIAL PLAN OR ZONING BY-LAW.

b) THE MINISTRY OF NATURAL RESOURCES WILL MAKE EVERY EFFORT TO AVOID AND DISCOURAGE RESIDENTIAL DEVELOPMENT ON CROWN OR PRIVATE LANDS THAT ARE:

1. HAZARD LANDS;
2. SENSITIVE AREAS;
3. STRATEGIC RESOURCE LANDS (AGRICULTURE, RECREATION, MINERAL AND FOREST PRODUCTION LANDS).

DISCUSSION:

The urban economic development strategy for the Northeastern Planning Region has been identified in the Design for Development Phase II document prepared by the Ministry of Treasury, Economics and Intergovernmental Affairs. Provincial government assistance of urban growth will be selective and prioritized.

In order to assist in the planning of urban development in the designated growth centres, it will be the policy of the Ministry of Natural Resources to give a high priority to the early identification of community development constraints, such as availability of aggregate supply, so that these will be available for inclusion in official plans and reviews of private development proposals.

The Ministry of Natural Resources also supports the Ministry of Housing policy governing the subdivision of rural land for residential uses. This policy stresses that urban development should not, with minor exceptions, occur in a rural area until that area has proven itself capable of handling

the physical, financial and social consequences of such growth¹.

In a more recent statement by the Ministry of Housing, the Minister announced that interim land severance policies stressing the need to protect "resource lands" would be adopted in areas of the province governed by Land Division Committees and not covered by official plans².

It will be the practice of the Ministry of Natural Resources to assist in the identification of these resource lands.

While the Ministry of Natural Resources is entrusted with the management of Crown lands, it should be noted that the Ministry's concerns regarding Residential Development encompass private land as well as Crown land. Many of the programs and objectives of the Ministry are achieved on both Crown and private land (e.g. mining and aggregate extraction) and therefore, the Ministry will be examining development proposals on all lands to ensure that the programs and objectives of the Ministry can be achieved.

I. INDUSTRIAL AND SPECIAL DEVELOPMENT

THE MINISTRY OF NATURAL RESOURCES WILL MAKE CROWN LAND AVAILABLE FOR INDUSTRIAL AND SPECIAL USES (e.g. GENERATING PLANTS, PIPELINES, TRANSMISSION LINES, HIGHWAYS) THROUGHOUT THE NORTHEASTERN ONTARIO PLANNING

¹ The Urban Development in Rural Areas (UDIRA) policy was first declared by The Honourable J.W. Spooner in 1966. The Ministry of Treasury, Economics and Intergovernmental Affairs in the Regional Strategy has indicated that "future development should be concentrated as much as possible within organized municipalities".

² Statement to the Legislature by The Honourable D.R. Irvine, Minister of Housing, Concerning an Interim Land Severance Policy and the Time Factor in Subdivision Applications, May 15, 1975.

REGION. THIS LAND WILL BE MADE AVAILABLE UPON REQUEST BY THE INITIATING AGENCY OR MINISTRY AND UPON THE APPROVAL IN PRINCIPLE OF THE PROJECT BY GOVERNMENT.

THE MINISTRY OF NATURAL RESOURCES WILL MAKE EVERY EFFORT TO AVOID AND DISCOURAGE INDUSTRIAL AND SPECIAL DEVELOPMENT ON:

- a) HAZARD LANDS;
- b) SENSITIVE AREAS;
- c) STRATEGIC RESOURCE LANDS (AGRICULTURE, RECREATION, MINERAL AND FOREST PRODUCTION LANDS).

DISCUSSION:

The major effect of industrial and special uses on programs of the Ministry of Natural Resources is that they remove parts of the land base from production. Trees cannot be harvested and minerals cannot be mined; and while no single development will adversely affect a Ministry program, the combined effect of all land alienation is that thousands of acres of productive land are effectively removed from the land base. The continual removal of land from production is a situation that must be closely monitored in order to ensure as efficient a utilization of all Crown land as is possible.

The Ministry will be particularly concerned in assessing energy land requirements. Economically feasible hydro power sites will be considered and water power agreements drawn up. The Ministry will relate its concerns for all of its programs when evaluating these proposals.

The Ministry opposes the use of once-through-cooling systems along the littoral zones of water bodies since these systems are known to place

considerable stress on aquatic plant and fish communities.

J. AGRICULTURE

CLASS 2 AND 3 AGRICULTURAL CAPABILITY CROWN LANDS WHICH ARE CONSIDERED BY THE MINISTRY OF AGRICULTURE AND FOOD AS NECESSARY FOR FUTURE FOOD REQUIREMENTS WILL BE DISPOSED OF PRIMARILY FOR AGRICULTURAL PURPOSES. IN CERTAIN AREAS CLASS 4 AGRICULTURAL CAPABILITY LANDS MAY ALSO BE INCLUDED IN THE DESIGNATION IF THE NEED IS IDENTIFIED BY THE MINISTRY OF AGRICULTURE AND FOOD.

DISCUSSION:

The Ministry of Agriculture and Food is refining objectives regarding agriculture in this province. Until these objectives have been finalized and accepted as government policy, the suggested policy for agriculture is that it should be considered as an important priority of use on agricultural capability land classes 2, 3 and 4 in Northeastern Ontario¹. However, where these high agricultural capability lands are not required in the immediate future, then the land should be used by those activities not adversely affecting the soil capability until such time as the land is required for agriculture. Timber production and recreation are considered to be appropriate sequential uses on designated agricultural lands.

K. COMMERCIAL FISHING

a) INLAND WATERS

THE PROPOSED POLICY FOR THE MINISTRY OF NATURAL RESOURCES IS TO

¹ There are no class 1 agricultural capability lands in Northern Ontario.

ENCOURAGE A SIGNIFICANT INCREASE IN THE ANNUAL COMMERCIAL FISH HARVEST FROM THE INLAND WATERS OF THE PLANNING REGION.

b) GREAT LAKES

THE MINISTRY OF NATURAL RESOURCES WILL ENCOURAGE AN INCREASE IN THE CURRENT ANNUAL COMMERCIAL FISH HARVEST FOR ALL SPECIES IN LAKE SUPERIOR FROM 1.2 MILLION TO 2.1 MILLION POUNDS AND IN LAKE HURON, AN INCREASE FROM 0.8 MILLION TO 2.0 MILLION POUNDS ANNUALLY BY THE YEAR 2000.

c) BAIT FISH

THE PROPOSED POLICY FOR THE BAIT FISH INDUSTRY WITHIN THE PLANNING REGION IS TO ENCOURAGE THE INDUSTRY TO MEET THE DEMANDS THROUGH NATURAL AND ARTIFICIAL CULTURE.

DISCUSSION:

In inland waters, gross preliminary estimates for the annual sustainable yield of fish species presently unutilized by the sports fishery, (i.e. generally referred to as coarse fish) fall in the order of 4.3 million pounds. Present yields are roughly 100,000 pounds. The harvest of the 4.3 million pound potential yield is desirable from a fisheries management context since all species in a lake will be utilized (i.e. a community concept). Potentially, such a strategy will optimize and stabilize fish yields to the future benefit of all users.

Further, this potential yield represents both job opportunities and a valuable food source for internal or export use.

Constraints to the achievement of the inland water commercial fish policy are:

- a) A widely scattered and low supply of large lakes suitable for commercial fishing resulting in high transportation and processing costs;
- b) Occurrence of some pollutants such as mercury, sulphur dioxide and wood fibre;
- c) Need for further fisheries assessment into lake ecosystems to permit full use;
- d) Conflicts with sport fishermen;
- e) Need for improvement of the licencing system and support legislation;
- f) Low saleability of some fish species from inland waters with heavy parasite loads.

Constraints to the achievement of the Great Lakes commercial fish production policy are:

- a) The present need to maintain the current low level of lake trout harvest in Lake Superior in order for rehabilitation of the species to occur;
- b) The need to develop markets and processing facilities to allow for the utilization of currently underutilized species such as alewife, ling, sucker and smelts.

In spite of these constraints, it is assumed that the growing world shortage of protein and increasing costs of meat and of prime fish species may make many species of fish saleable at an economically acceptable price before the year 2000. A demand for protein should result in a more

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favourable climate for the use and allocation of waters for commercial fishing. A ready availability of markets will mean that the present high transportation and processing costs will be overcome, allowing for processing plants to locate near the resource, thus providing an increased secondary industry employment in Northeastern Ontario. Finally, it is assumed that before 2000, the demand for fish products will exceed the capabilities of natural production and will provide opportunity and incentive for an aquaculture industry.

L. COMMERCIAL FUR

WITHIN THE NORTHEASTERN PLANNING AREA, THE MINISTRY OF NATURAL RESOURCES CANDIDATE POLICY FOR COMMERCIAL FUR IS:

- a) BY THE YEAR 2000 TO ENCOURAGE GREATER THAN 100 PERCENT INCREASE IN THE NUMBER OF FURBEARER PELTS HARVESTED FROM THE CURRENT LEVEL OF 136,000 PELTS;
- b) TO ENCOURAGE INCREASED UTILIZATION OF MEAT FROM FURBEARERS TAKEN FOR THEIR PELTS.

DISCUSSION:

The achievement of the commercial fur policies may be constrained by any loss of land presently available to trapping or by any decrease in the demand for furs.

It is expected that increased harvest will be a result of increased trapper efficiency rather than an increase in the number of trappers.

M. FORESTRY

THE POLICY OF THE MINISTRY OF NATURAL RESOURCES IS TO PROVIDE AN

OPTIMUM CONTINUOUS CONTRIBUTION TO THE ECONOMY BY THE FOREST BASED INDUSTRIES CONSISTENT WITH SOUND ENVIRONMENTAL PRACTICES AND TO PROVIDE FOR OTHER USES OF THE FOREST.

THE OBJECTIVE OF THE FOREST MANAGEMENT PROGRAM IN THIS PLANNING REGION IS TO GROW SUFFICIENT WOOD FOR THE FOREST BASED INDUSTRIES DEPENDENT ON THIS REGION FOR THEIR SUPPLY.

THE TARGET ASSIGNED TO NORTHEASTERN ONTARIO IS TO PROVIDE, ON A CONTINUING BASIS, 350 MILLION CUBIC FEET OF WOOD ANNUALLY TO THE WOOD USING INDUSTRIES DEPENDENT ON THE REGION FOR THEIR SUPPLY. THE MINISTRY WILL ALSO ENCOURAGE AND PROMOTE THE USE BY THE FOREST INDUSTRIES OF TREE SPECIES PRESENTLY BEING UNDERUTILIZED.

DISCUSSION:

The assigned target of 350 million cubic feet is the Planning Region's portion of the Provincial Forest Production Policy set by Management Board in 1972. Provisions contained in the Provincial Forest Production Policy guaranteed the availability of 350 million cubic feet of wood fibre up to and beyond the year 2020.

This volume is available on a sustained yield basis from 20,693,401 acres (Crown and patent) of production forest land (based on 1972 estimate).

The industry has cut (average 1973-1976) 195 million cubic feet annually. Of this, 171 million cubic feet (88 percent) is conifer. Most of the hardwood cut was from tolerant hardwood stands. A limited volume of poplar and white birch has been cut.

The present annual allowable cut is 460 million cubic feet for all species based on sustained yield from 29,289,389 acres of productive forest land

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(Crown land). Of this volume, almost all of the allowable cut of coniferous species and tolerant hardwoods is being harvested while very little of the poplar and white birch is being cut.

The increased demand by the forest industry that has occurred since the original Provincial Forest Production Policy, the availability of improved information and the concern for a shrinking land base available for forest production (23,642,000 acres Crown, 2,899,000 acres patent, based on 1976 estimate) has led to a review of the original Provincial Forest Production Policy approved by Management Board.

Because of installed increases in woods industry capacity and because of predicted demand for additional increases in the forest based industry in the Region, the total allowable cut of 460 million cubic feet could be utilized.

It is evident that any future expansion will be dependent, in large part, on the utilization of presently unused species (poplar and white birch). In order to assure the continuation of present and future wood supplies, the land base for forest production must be stabilized, all productive acres must be regenerated adequately after cutting and if the land base is reduced, then provision to increase wood production from this smaller land base will have to be achieved.

N. MINING

a) METALLIC MINERALS, NON-METALLIC MINERALS AND FOSSIL FUELS

THE POLICY IS TO STRENGTHEN THE CONTRIBUTION OF MINERALS AND FOSSIL FUELS TO THE ECONOMY BY:

1. ENCOURAGING MINERAL EXPLORATION IN ORDER TO LOCATE, ESTABLISH AND EXPAND RESERVES.

2. ASSURING THAT LANDS IDENTIFIED AS HAVING HIGH AND MODERATE POTENTIAL FOR THE DISCOVERY OF MINERAL DEPOSITS SHALL BE AVAILABLE FOR EXPLORATION AND POSSIBLE SUBSEQUENT DEVELOPMENT.
3. ENCOURAGING DOMESTIC PROCESSING AND REFINING OF ORES IN ONTARIO.

DISCUSSION:

Because the mineral resource industry of the Planning Region is of world stature in terms of the value of production and the strategic nature of some of its products, and because it provides the major source of employment for residents of the Region, it is imperative to maintain the health of this industry.

The Ministry's policy is directed towards maintaining and expanding the opportunities for mineral resource utilization. To meet this objective, in the context of land use planning, it is necessary to keep a maximum amount of land open for exploration, in order that new mineral reserves may be found to replace those being mined, and to serve as the basis for industrial growth.

Given the unpredictable nature of mineral discovery and the significant influence of international economic and political events, it is difficult to estimate the extent of increase in benefits which will result from this policy statement.

b) STRUCTURAL MATERIALS

THE PROPOSED POLICY FOR STRUCTURAL MATERIALS SUCH AS CLAY, STONE, SAND AND GRAVEL IS TO MEET THE LOCAL DEMAND AND CONTRIBUTE TOWARDS MEETING THE PROVINCIAL DEMAND BY MAKING AVAILABLE AN ADEQUATE SUPPLY THROUGH SOUND RESOURCE MANAGEMENT.

DISCUSSION:

The Ministry of Natural Resources encourages all organized municipalities to inventory aggregate supplies and reserve these supplies for future sand and gravel demands. The principle of sequential use is advocated on these lands to allow for aggregate utilization, followed by proper pit rehabilitation.

O. TOURISM

THE MINISTRY OF NATURAL RESOURCES WILL SUPPORT EXPANSION OF THE TOURISM INDUSTRY WHERE IT IS BASED UPON CONSUMPTIVE AND/OR NON-CONSUMPTIVE NATURAL RESOURCE UTILIZATION, PROVIDING THAT:

- a) THE EXPANSION DOES NOT EXCEED OR CAUSE TO EXCEED THE CAPABILITY OF THE RESOURCES;
- b) THE EXPANSION DOES NOT PREVENT THE UTILIZATION OF THE NATURAL RESOURCES BY THE LOCAL USERS.

DISCUSSION:

The Ministry of Industry and Tourism defines a tourist as anyone who travels a distance greater than 25 miles from home for purposes other than school, work or visiting relatives.

The General Provincial Tourism Policy of the Ministry of Industry and Tourism is:

- a) To achieve a significant increase in tourism benefits; and
- b) To achieve greater seasonal distribution on a provincial basis.

The goals of the Ministry of Industry and Tourism are:

- a) To stimulate employment and income through a well co-ordinated development of Industry, Trade and Tourism consistent with an optimum balance between economic growth and the quality of life in Ontario; and
- b) To contribute to and heighten the industrial and commercial strategy of the province.

The Ministry of Natural Resources recognizes the beneficial role of tourism but, at the same time, also recognizes that tourists do utilize the natural resources of the province. Although every attempt will be made to allocate resources in order to strike a balance between tourism benefits and recreation benefits in Northeastern Ontario, it must be emphasized that day use recreation by the local residents of the Planning Region is of higher priority than tourist development.

P. SPORT FISHING

IN THE NORTHEASTERN PLANNING REGION, THE CANDIDATE POLICY FOR SPORT FISH WILL BE:

TO MEET DEMAND FOR ANGLING PRIMARILY WITHIN A CONCEPT OF OPTIMUM ANNUAL YIELD FROM NATURAL FISH COMMUNITIES. (BY 1991, THE ANTICIPATED DEMAND IS EXPECTED TO BE 16.3 MILLION ANGLER USER-DAYS. CURRENT USE IS ESTIMATED AT 8.8 MILLION ANGLER USER-DAYS.)

DISCUSSION:

In Northeastern Ontario it will be very difficult and perhaps unrealistic to meet the anticipated demand for sport fish at the current quality (species composition and success) standards.

Approach to Policy

At the present time, annual harvest of sport fish appears to approximate annual production. However, rapidly increasing pressure is expected to be exerted on the supply by local and Southern Ontario residents as well as non-resident tourists.

Increased pollution and conflict over various uses for water bodies are expected to reduce the supply of sport fishing water available. Finally, costs in manpower and money to provide intensive management on small and numerous bodies of water are difficult to justify.

Major changes in the extent and scope of fisheries management will be required to keep pace with demand. Some of the major considerations and needs prior to generating additional fishing opportunities are outlined below:

- a) Additional fisheries assessment units on large water bodies and sets of typical lakes for prime angling species;
- b) Improved capabilities for production of more and higher quality hatchery fish;
- c) Development of a significant fish habitat improvement program to assist in restoring fish habitat lost through pollution or the introduction of exotic species, and to create new fisheries habitat;
- d) Development of resource policies and mechanisms which would direct people to underutilized areas or species so that overexploited populations could be protected;
- e) Use of hatchery fish on a put and take basis by government or private agencies to supplement the need for fishing opportunities when it cannot be met by natural production.

Further to the five points itemized above, the need for effective fisheries management has been outlined in the document "Fourth Report of the Federal-Provincial Strategic Planning for Ontario Fisheries, Management Strategies for the 1980's". A copy of this strategy appears on Table 56 in this report. It is essential that all items identified in the report be addressed and resolved to meet the future demands of the fisheries of the Planning Region.

Q. LAKE TROUT LAKES

HIGH QUALITY LAKE TROUT WATERS IN THE PLANNING REGION WILL BE DESIGNATED BY THE MINISTRY OF NATURAL RESOURCES AS "NO DEVELOPMENT AREAS".

DISCUSSION:

There are 747 lake trout waters in the Planning Region. It is the Ministry's present objective to identify those water bodies most important to the conservation of this species and assign to these waters a "no development" designation. The future maintenance of lake trout fisheries, because of increasing pressure and stress on this resource, will require this specific designation. For those lake trout waters where some development is deemed acceptable, special controls will be implemented to reduce exploitation and pollution.

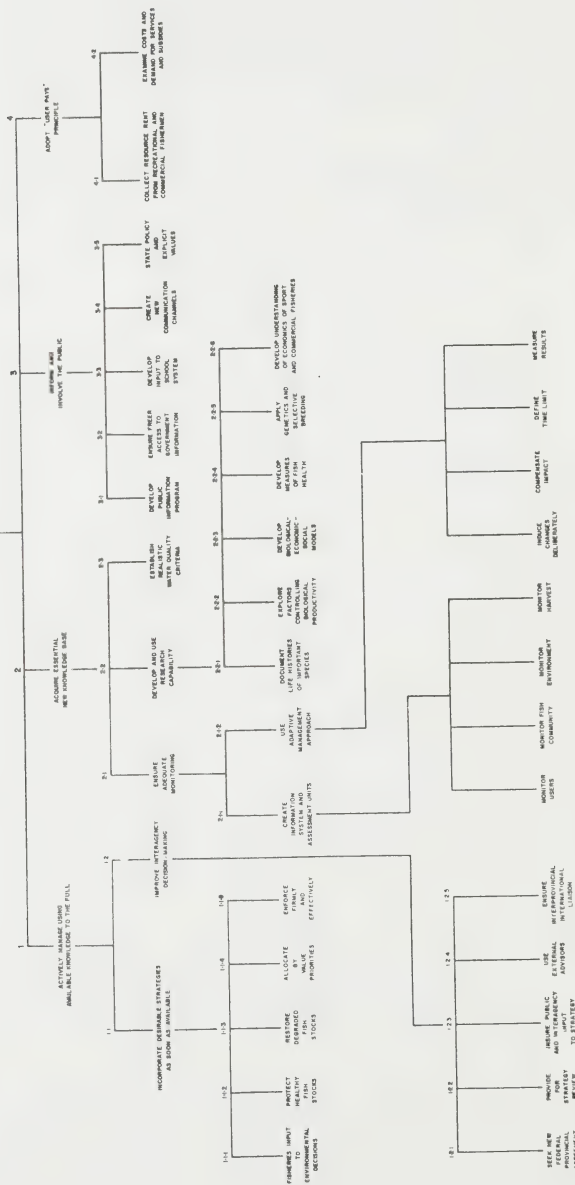
R. WILDLIFE

IN ESTABLISHING WILDLIFE POLICY FOR THE NORTHEASTERN PLANNING AREA, THREE OBJECTIVES HAVE BEEN IDENTIFIED:

- a) TO MEET THE DEMAND FOR HUNTING AND VIEWING RECREATION OPPORTUNITIES THROUGH THE MANAGEMENT OF WILDLIFE SPECIES AND THEIR HABITATS ON THE BASIS OF OPTIMUM SUSTAINABLE PRODUCTION;

TABLE 56

MANAGE FISHERIES EFFECTIVELY



Source: Fourth Report, Federal-Provincial Strategic Planning for Ontario Fisheries, April 1976

- b) TO DESIGNATE AND PROTECT RARE AND ENDANGERED SPECIES AND THEIR HABITAT IN THE PLANNING AREA;
- c) TO PROVIDE HUNTING OPPORTUNITIES FOR RESIDENTS OF ONTARIO ON A FIRST PRIORITY BASIS AND TO INCREASE SLIGHTLY TOURISM BENEFITS.

DISCUSSION:

In the Northeastern Planning Area, it will be very difficult to meet the demand for hunting opportunities for moose and deer due to habitat limitations and inefficiency of present regulatory mechanisms. Reduction in season periods, delayed opening dates to avoid the rutting period, and differential licence fees have been employed as less than desirable means to manage the resource. While some potential remains for promotion of remote hunting opportunities, the numbers of such locations are limited with conflicts presently existing between resource users.

Rare and endangered species and their habitat will continue to be identified and designated for future protection.

Sensitive areas of habitat, such as avian nesting and staging grounds, winter concentration areas for deer and moose, etc., will be identified and removed from development completely, or partially, as required for optimum resource protection (e.g. nesting sites of eagles, osprey, falcons, herons, colonial water birds, etc.).

With the present level of resource utilization, wildlife resources will continue to be provided to the Ontario resident on a first priority basis. Within the planning area, for example, differential season opening dates for moose hunting and licence fees schedules presently reflect

this policy.

A slight increase in tourism benefits will be sought north of the 50°N parallel based upon waterfowl for hunting and viewing opportunities. Minor increases in tourism benefits south of the 50°N parallel will be promoted based upon bear hunting.

In order to achieve hunting and viewing policies, interim steps will be required to overcome present constraints:

- a) Implement an interim reduction in moose harvest to allow rehabilitation of moose populations;
- b) Implement more effective controls on harvest - collect essential species data on harvest, recruitment, and other important management concerns;
- c) Initiate improved habitat management programs through forest management techniques (i.e. reserves, cutting procedures, regeneration to increase the productivity of the land for wildlife);
- d) Encourage the development of hunter interest in underutilized small game species rather than the traditional interest in big game;
- e) Expand and improve habitat through specific range manipulation (for species such as grouse, deer, and moose), and through increased involvement and co-operation with timber management (e.g. reserves, cutting techniques, etc.) to increase wildlife productivity of the land.

S. PARKS

THE POLICY OF THE MINISTRY OF NATURAL RESOURCES IS TO PROVIDE A VARIETY OF OUTDOOR RECREATION OPPORTUNITIES, TO PRESERVE PROVINCIALLY SIGNIFICANT, NATURAL, CULTURAL AND RECREATIONAL ENVIRONMENTS, AND TO CONTRIBUTE TO THE DEVELOPMENT OF TOURISM IN A SYSTEM OF PROVINCIAL PARKS BY:

- a) PROVIDING PROVINCIAL PARK OUTDOOR RECREATION OPPORTUNITIES RANGING FROM HIGH INTENSITY DAY USE TO LOW INTENSITY WILDERNESS EXPERIENCES. TARGETS HAVE BEEN SET IN THE NORTHEASTERN REGION TO PROVIDE 1.3 DAY VISITS PER CAPITA WITHIN TWO HOUR TRAVEL ZONES OF MAJOR CENTRES, 0.5 CAMPER DAYS PER CAPITA WITHIN THREE HOUR TRAVEL ZONES, AND TO PROVIDE APPROXIMATELY ONE-HALF THE DEMANDS FOR WILDERNESS TRAVEL AND OTHER BACK COUNTRY TRAVEL IN PROVINCIAL PARKS;
- b) PRESERVING PROVINCIALLY SIGNIFICANT ELEMENTS OF THE NATURAL AND CULTURAL LANDSCAPE;
- c) PROVIDING OPPORTUNITIES FOR EXPLORATION AND APPRECIATION OF THE OUTDOOR NATURAL AND CULTURAL HERITAGE;
- d) STIMULATING TRAVEL BY RESIDENTS OF AND VISITORS TO ONTARIO.

DISCUSSION:

The target to supply 1.3 day visits and 0.5 camper days is the present provincial average. By 1991, approximately one-half of the anticipated demand for back country travel and camping opportunities will be provided within Provincial Parks. Targets for the preservation of elements of the natural and historical landscape will require representation of life science features, earth science features and historical resources. Total land area required to meet this target cannot be estimated at

present because the areas will vary according to the nature of the feature to be preserved.

Heritage appreciation in provincial parks will take place in an unstructured and exploratory way or through a structured visitor services interpretive program. Structured opportunities through interpretive programming include a broad range of facilities and services to meet the desires of visitors to explore and understand park landscapes. Provincial parks stimulate tourism by providing stopover and destination camping and day use recreation for those Ontario residents and visitors who are travelling within Northeastern Ontario.

How Park Classes Achieve Park System Objectives:

In order to provide the diversity of experiences aimed for in the objectives, park classification and zoning are used to differentiate management practices, design standards and the activities appropriate within particular parks. For the purposes of this policy, six classes of parks are considered: wilderness parks; nature reserves; natural environment parks; waterway parks; historical parks and recreation parks. As indicated in Table 57, various of the six classes combine to achieve each of the five objectives of the Provincial Parks System in the Northeastern Planning Region.

a) WILDERNESS PARKS AND ZONES

IN ESTABLISHING WILDERNESS PARKS AND ZONES, THE TARGET IS TO ATTEMPT TO ACHIEVE REPRESENTATION OF EACH OF THE SITE REGIONS IN THE NORTHEASTERN PLANNING REGION. FULL REPRESENTATION REQUIRES ONE WILDERNESS PARK AND AT LEAST ONE COMPLEMENTARY WILDERNESS

TABLE 57

ACHIEVEMENT OF PARK SYSTEM OBJECTIVES BY PARK CLASSIFICATION

	WILDERNESS PARKS	NATURE RESERVES	NATURAL ENVIRONMENT PARKS	WATERWAY PARKS	HISTORICAL PARKS	RECREATION PARKS
PRESERVATION	*	*	*	*	*	
RECREATION						
Day Use						*
Camping			*	*		*
Back Country Travel	*		*	*		
HERITAGE APPRECIATION	*	*	*	*	*	*
TOURISM			*	*		*

* Denotes that class helps to achieve this objective.

ZONE (IN OTHER THAN WILDERNESS PARKS) IN EACH OF THE FIVE SITE REGIONS IN THE NORTHEASTERN PLANNING REGION. FUTURE PARKS SHOULD NOT BE LESS THAN 124,000 ACRES. WILDERNESS ZONES IN PARKS OF OTHER CLASSES SHOULD NOT BE LESS THAN 4,900 ACRES IN SIZE.

DISCUSSION:

Wilderness parks are blocks of land and water large enough to allow natural processes to continue, relatively unaffected by human action. At present, the target for Site Region 1E is fully satisfied and it would appear that it will also be possible to meet the target in Site Region 2E. However, in Site Regions 3E, 4E and 5E, it may be difficult to fully meet the target for representativity and size because of ongoing commitments and requirements to other resource uses.

b) NATURE RESERVES AND NATURE RESERVE ZONES

NATURE RESERVES AND NATURE RESERVE ZONES IN THE NORTHEASTERN PLANNING REGION WILL BE SELECTED FOR THEIR ABILITY TO PRESERVE SIGNIFICANT, REPRESENTATIVE AND SPECIAL EARTH AND LIFE SCIENCE FEATURES.

DISCUSSION:

Nature reserves preserve and perpetuate distinctive earth and life science features and natural communities representative of Ontario's natural heritage. Wilderness, natural environment and waterway parks will provide most of the nature reserve zones. National and regional parks and those areas protected by voluntary agreement on private lands will contribute to the system. The Montreal River glacial beach reserve, located in the Sault Ste. Marie District, is the only existing nature reserve in the Region. In order to achieve the proposed policy, additional candidate

nature reserves will be proposed and evaluated.

c) NATURAL ENVIRONMENT PARKS AND ZONES

IN ESTABLISHING NATURAL ENVIRONMENT PARKS AND ZONES THE TARGET IS TO PROVIDE, WHERE NECESSARY, REPRESENTATION OF EACH SITE DISTRICT WITHIN THE NORTHEASTERN PLANNING REGION. FUTURE PARKS SHOULD NOT BE LESS THAN 4,900 ACRES IN SIZE.

DISCUSSION:

Natural environment parks are areas of particular recreational, historical and natural interest. Within these parks recreation, based on interaction with the natural environment and appreciation of natural and cultural values, is dominant. At present there are 15 natural environment parks in the Region. To achieve the proposed policy, additional natural environment parks will be proposed and evaluated in all site districts except: (i) Hudson's Bay Lowlands where identification and evaluation of sites could be delayed until the nature of future access, development and demands become known, and (ii) in those areas having a natural environment park which falls within a transition zone between two or more site districts.

d) WATERWAY PARKS

WATERWAY PARKS ARE CORRIDORS BASED ON MAJOR WATER ROUTES AND INCLUDING ASSOCIATED LANDS WHICH ARE OF PARTICULAR RECREATIONAL, HISTORICAL AND NATURAL INTEREST. THE TARGET TO ACHIEVE FULL REPRESENTATION WOULD REQUIRE THE ESTABLISHMENT OF WATERWAY PARKS SO THAT AT LEAST ONE SUCH PARK PASSES THROUGH EACH OF THE SITE DISTRICTS.

DISCUSSION:

Waterway parks may range from "wild" rivers offering challenge and solitude to a few, to highly developed corridors offering a wide range of recreational opportunities to many. It may not be necessary to establish waterway parks in site districts where major waterways are included in other parks.

In order to meet the requirements of the proposed policy, additional candidate waterways will be proposed and evaluated.

e) HISTORICAL PARKS AND ZONES

HISTORICAL PARKS AND ZONES WILL BE SELECTED FOR THEIR ABILITY TO REPRESENT HISTORICAL THEMES IN AN AUTHENTIC OUTDOOR SETTING, FOR THE QUALITY OF THEIR HISTORICAL RESOURCES AND FOR THEIR CAPABILITY FOR HISTORICAL INTERPRETATION. OUTSIDE OF HISTORICAL PARKS, NATURAL ENVIRONMENT PARKS AND WATERWAY PARKS WILL INCLUDE HISTORICAL ZONES WHERE THESE RESOURCES ARE PRESENT. NATIONAL HISTORIC PARKS AND SITES, AND PROVINCIAL, REGIONAL AND LOCAL HISTORICAL FACILITIES MAY ALSO HELP TO REPRESENT HISTORICAL THEMES.

DISCUSSION:

Historical parks preserve and perpetuate in their original outdoor setting distinctive historical resources representative of Ontario's cultural heritage.

All historical parks provide a chance to appreciate, explore and participate in the life styles of past generations. No historical parks have been designated in the Northeastern Planning Region.

In order to satisfy the requirements of the proposed policy, candidate

sites will be proposed and evaluated.

f) RECREATION PARKS

RECREATION PARKS WILL BE SELECTED FOR THEIR ABILITY TO SATISFY EFFICIENTLY AND EFFECTIVELY DEFICIENCIES IN OUTDOOR RECREATION SUPPLY, FOR THE EXISTING OR POTENTIAL SIGNIFICANCE OF THEIR RECREATIONAL LANDSCAPES AND FOR THEIR CAPABILITY FOR A WIDE VARIETY OF INTENSIVE OUTDOOR RECREATION USES ON A YEAR ROUND BASIS. PRIORITY WILL BE GIVEN TO THE ESTABLISHMENT OF RECREATION PARKS WHERE OTHER PUBLIC AGENCIES AND THE PRIVATE SECTOR ARE UNABLE TO PROVIDE COMPARABLE FACILITIES REQUIRED TO MEET BASIC NEEDS.

DISCUSSION:

Recreation parks are units of land and water which support a wide variety of outdoor recreational opportunities for large numbers of people in attractive surroundings. Recreation parks may be located on landscapes lacking major significant recreational environments but preferably will be based on some outstanding potential, such as a major beach.

At present, there are 12 recreation parks in the Northeastern Planning Region. In keeping with the proposed policy, additional candidate sites will be proposed and evaluated.

T. CROWN LAND RECREATION

THE POLICY OF THE MINISTRY OF NATURAL RESOURCES IS TO PROVIDE ON CROWN LAND A SIGNIFICANT AMOUNT OF RECREATIONAL OPPORTUNITY:

a) CAMPING

1. TO PROVIDE A SUPPLEMENTARY SYSTEM OF CAMPGROUNDS ON CROWN LAND

IN HIGH RECREATION USE AREAS, COMPLEMENTING THE PROVINCIAL, PRIVATE OR MUNICIPAL SYSTEMS AND IMPROVING THE CROWN LAND CAMPING EXPERIENCES.

2. TO PROVIDE THE OPPORTUNITY FOR UNSTRUCTURED CROWN LAND CAMPING EXPERIENCE.

b) BACK COUNTRY RECREATIONAL OPPORTUNITIES

1. TO IDENTIFY NEAR WILDERNESS OPPORTUNITIES WITHIN THE NORTH-EASTERN PLANNING REGION BY EMPLOYMENT OF JUDICIOUS ZONING STRATEGIES.

c) BOATING

1. TO PROVIDE INCREASED OPPORTUNITIES FOR PUBLIC ORIENTED RECREATION ACTIVITIES BY DEVELOPING, MANAGING AND PROTECTING A SYSTEM OF WATER ACCESS POINTS TO DESIRABLE WATER BODIES.

d) CANOE ROUTES

1. TO PROVIDE INCREASED CANOEING OPPORTUNITIES BY DEVELOPING AND EXPANDING A SYSTEM OF QUALITY CANOE ROUTES THROUGH CROWN LAND AND TO PROTECT AND MANAGE THESE ROUTES IN A MANNER COMPATIBLE WITH OTHER RESOURCE USES.

e) TRAILS

1. TO PROVIDE A SYSTEM OF TRAIL OPPORTUNITIES;
2. TO PROTECT AND MANAGE RECREATION ZONES TO PRESERVE THOSE QUALITIES THAT MAKE THEM ATTRACTIVE TO RECREATION USERS.

DISCUSSION:

The majority of the Planning Region's recreation user days occurs outside of the formal parks system. In order to accommodate this demand, certain parts of the Planning Region will be designated for recreation use. In some cases, the areas will be for general recreation (including private development such as cottaging); in other cases, the area will be for public recreation only. In either case, other uses such as forestry and mining will also take place.

This Crown land recreation policy should be evaluated in context with the proposed policies for sport fish, wildlife, parks and cottaging. Together they form the recreation "package".

U. COTTAGING - CROWN LAND

THE PLANNING REGION'S LOCAL RESIDENT DEMAND FOR COTTAGING WILL BE PARTIALLY MET FROM CROWN LAND THROUGH THE PROVISION OF UP TO 200 COTTAGE LOTS PER YEAR TO THE YEAR 2000. THIS PROPOSED POLICY WILL BE MET BY UTILIZING NOT MORE THAN 30 PERCENT OF THE LAKES OVER 125 ACRES IN THE PLANNING REGION.

A VARIETY OF LOTS WILL BE MADE AVAILABLE RANGING FROM BACKSHORE CLUSTERS TO UNSERVICED INDIVIDUAL REMOTE LOCATIONS. AS THE PROGRAM PROGRESSES, THERE WILL BE A GREATER RELIANCE ON BACKSHORE CLUSTER DEVELOPMENT, REMOTE INLAND SITES AS WELL AS SMALL LAKE AND RIVER SITES.

CROWN SHORELINE LOTS WILL NOT BE MADE AVAILABLE ON THOSE LANDS REQUIRED AS DAY USE AREAS FOR LOCAL COMMUNITIES. HERE, PREFERENCE WILL BE GIVEN TO THE PUBLIC USE RECREATION REQUIREMENTS.

LAKE PLANS ARE A PREREQUISITE TO COTTAGE DEVELOPMENT AND WILL BE BASED ON THE PREMISE THAT PROPOSED DEVELOPMENT WILL NOT REDUCE WATER QUALITY BELOW A LEVEL ACCEPTABLE FOR BOTH HUMAN NEEDS AND MAINTENANCE OF HEALTHY NATURAL FISH COMMUNITIES.

DISCUSSION:

At the present time, the demand for cottaging opportunities from within the Planning Region is estimated to be approximately 1,000 cottages per year. The proposed policy attempts to meet 20 percent of this total demand by providing 200 cottage lots per year. The private sector could make a major contribution towards providing further opportunities.

The proposed policy will be restricted to 30 percent of those lakes over 125 acres which are located south of 50°30' north latitude. In the future, smaller lakes and rivers will be assessed for their ability to supply cottaging opportunities.

There is a lake planning program underway which will identify proposed cottage lots on lakes in the Northeastern Ontario Planning Region.

The provision of cottage lots will be largely dependent on two factors: availability of suitable lakes and local demand patterns. Although it may be feasible to provide 200 lots annually to the year 2000, the available supply of lakes may not be in the same area as the demand.

Incompatibility of cottaging with certain types of existing or proposed uses of an area restricts the future supply of cottage lots. Designated wilderness areas, or areas of intense day use, may exclude cottage development. Large fluctuations of water levels in water bodies important for

hydro-electric power production inhibit the use of the shoreland for cottages. To avoid over-fishing and to maintain quality fisheries, limitations will be placed on the number of lakes where cottage development can be considered. This is especially the case with oligotrophic cold water lakes, which are considered to be extremely sensitive to deterioration through artificial nutrient loading and over-fishing.

Lots will be disposed of by lease or land use permit rather than sale and will be disposed of at an annual rental based on a percentage of market value. The costs associated with the planning, administration and developing of the cottage lots are to be recovered from the lessee.

Ontario residents only will have the opportunity to lease cottage subdivision lots during the first year (after registration of the subdivision plan), with other Canadians in the second year and non-Canadians in the third year. Remote cottages will be made available only to Ontario residents.

V. PRIVATE LAND COTTAGING

IN ORGANIZED AREAS, THE MINISTRY OF NATURAL RESOURCES WILL ENCOURAGE DEVELOPMENT PLANS TO BE PREPARED FOR ALL LAKES WHERE LAKE SHORES ARE BEING PRIVATELY DEVELOPED. THE LAKE PLANS SHOULD DEFINE THE CAPACITY OF THE LAKE FOR DEVELOPMENT AND SHOULD IDENTIFY HOW THE RESOURCE BASE WILL BE UTILIZED.

IN UNORGANIZED AREAS, THE MINISTRY OF NATURAL RESOURCES WILL MAKE EVERY EFFORT TO ENSURE THAT LAKE SHORE DEVELOPMENT DOES NOT EXCEED, OR CAUSE TO EXCEED, THE CAPACITY LEVEL OF THE LAKE.

DISCUSSION:

It is recognized that the private sector will continue to provide most of the future supply of cottage lots. To ensure a minimal amount of environmental damage and a desirable level of opportunity for public use, local land use plans should be made and approved before any development occurs. Capacity levels for lakes, where lake shores are being privately developed, should be determined by the Ministry of the Environment and the Ministry of Natural Resources prior to development.

W. FIRE

THE PRIORITIES FOR FOREST FIRE SUPPRESSION ARE THE PROTECTION OF:

- a) HUMAN LIFE;
- b) PRIVATE AND PUBLIC PROPERTY;
- c) TIMBER PRODUCTION AREAS;
- d) OTHER - WILDLIFE HABITAT;
PROTECTION FOREST;
AESTHETICS;
WILDERNESS.

DISCUSSION:

Fire is not a land use, however, the consequences of fire or the exclusion of fire will, in one way or the other, affect the use of land. Therefore, fire management considerations are included in the Strategic Land Use Plan. Fire can be both detrimental and beneficial, sometimes at the same time. The above priorities are an attempt to set out where the Ministry of Natural Resources will apply aggressive suppression measures.

X. ROADS AND DAMS

ANY ROAD OR DAM THAT THE MINISTRY OF NATURAL RESOURCES IS BUILDING OR SUBSIDIZING WILL BE DESIGNED, BUILT AND LOCATED SO AS TO BE COMPATIBLE WITH LAND USES DESIGNATED BY THE STRATEGIC LAND USE PLAN. IN ADDITION, ALL OF THESE ROADS AND DAMS WILL BE BUILT TO MEET MINISTRY OF ENVIRONMENT REQUIREMENTS.

DISCUSSION:

When a road or dam is being constructed by a private or government agency, the Ministry of Natural Resources will continue to provide information and participate so as to ensure that the road is located in such a way to have the least damaging effect on the environment and on the Ministry of Natural Resources programs and objectives.

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